DOCUMENT RESUME

ED 056 439 EC 040 480

AUTHOR	Jones, Juanita; And Others
TITLE	Handbook of Pupil Experiences for "High Challenge" Children - Those Children with Learning Problems.
INSTITUTION	Tulsa Public Schools, Okla.
PUB DATE	Jul 71
NOTE	278p.
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	Class Activities; Educational Diagnosis; *Exceptional Child Education; Guidelines; *Learning Disabilities; Motor Development; *Perceptual Development; *Perceptual Motor Learning; Primary Grades; Readiness (Mental); *Skill Development; Teaching Methods

ABSTRACT

The guide is intended to familiarize primary grade teachers with the special learning characteristics of students with a high risk for a learning disability (those who are beginning to show an inability to work with symbols or to think abstractly) and to assist the teachers in the diagnosis of the specific nature of their learning problems. Possible etiologies of learning disabilities are suggested, and the developmental characteristics of the learning disabled child are compared to those of an average child. A model is presented for standardized and informal evaluation by the classroom teacher and by various consultants. Presented are developmental techniques and materials for areas of weakness at any level before the academic, and special teaching techniques and materials for teaching academic subjects to the potentially learning disabled child. Skill areas covered are motor development, visual development, visual motor development (including fine motor and pre-writing skills), auditory development, haptic development, body concept development, affect development, and academic development in the areas of reading and language, mathematics, and science. Classroom organization is also discussed. (KW)

ED056439

HANDBOOK OF PUPIL EXPERIENCES

for "High Challenge" Children, those children with Learning Problems.

DO NOT FOLD SPINDLE OR MUTILATE

EC 040 480E

TULSA PUBLIC SCHOOLS · TULSA, OKLAHOMA

ED056439

HANDBOOK OF PUPIL EXPERIENCES

For "HIGH CHALLENGE" children,
those children with learning problems.

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

Prepared by the "High Challenge" Staff:
Juanita Jones, Julia Ratliff, and Helen Turner.

Many thanks to our typists:
Helen Ferguson and Daisy Royal

TULSA PUBLIC SCHOOLS

TULSA, OKLAHOMA

JULY, 1971

CONTENTS

(In Order of Appearance)

FOREWORD

ACKNOWLEDGEMENTS

INTRODUCTIONS

ETIOLOGY

DEVELOPMENTAL CHARACTERISTICS
    (Average child and "High Challenge" child)

TESTING SEQUENCE

CLASSROOM ORGANIZATION

MOTOR DEVELOPMENT

VISUAL DEVELOPMENT

VISUAL MOTOR DEVELOPMENT
    (Including Fine Motor and Pre-writing)

AUDITORY DEVELOPMENT

HAPTIC DEVELOPMENT

BODY CONCEPT DEVELOPMENT

AFFECT DEVELOPMENT

ACADEMIC DEVELOPMENT
    Reading and Language
    Mathematics
    Science

GLOSSARY

FOREWORD

FOREWORD

There is a growing recognition that most elementary school classrooms contain a number of students who are unable to cope with the ordinary primary school curriculum. While not handicapped in the traditional sense, such youngsters have learning disabilities which, for some reason, do not permit them to achieve success in the basic learning skills such as reading, spelling, numbers, and writing. This handbook represents an early attempt of the Tulsa Public Schools to assist the classroom teacher with such students and their learning needs.

It is hoped this guide will help familiarize primary school teachers with the special learning characteristics of these "High Challenge" students and to assist them in the diagnosis of the specific nature of their learning problems. As a body of knowledge begins to be accumulated about this kind of learning disorder, more and more we will come to recognize the need for the case study as an instructional technique whereby highly specialized people assist in diagnosis.

At the present time, there is a tendency to teach to an entire group of elementary school children, rather than attempt to differentiate and instruct them for what in some schools may amount to 10-25% of the total school population. In short then, this guide is designed to assist the teacher with those students who simply seem unable to learn or to want to learn during their important early school years.

When diagnosis of such students has been completed, implementation of an improved instructional program is going to require individualized instruction. While sheer numbers have served to discourage this as a way of organizing for instruction in recent years, a number of elementary schools are now making serious attempts to organize themselves so as to make this more possible. If the High Challenge student is to be more adequately served, a personalized curriculum is going to be essential.

It is hoped this handbook will represent a beginning effort to assure that all primary school children can achieve measures of success as they undertake the learning of basic skills essential to future conceptual attainment. I commend it for use by teachers and administrators.

Gordon Cawelti, Superintendent
TULSA PUBLIC SCHOOLS

ACKNOWLEDGEMENTS

ACKNOWLEDGEMENTS

The High Challenge project is funded under the Education Profession Development Act, Public Law 90-35, Part V-D.

We are particularly indebted to Dr. Joan E. Duval, Acting Branch Chief of the Division of School Programs, for her support and concern throughout the development and implementation of this program.

We also express our appreciation to Miss Karen Cossaro and Dr. Margarete Follett, project officers, for their professional direction which has been of inestimable value to this project.

Jack L. Griffin,
Director of Federal Projects

INTRODUCTION

INTRODUCTION

In this book the High Challenge child is the child with a high risk for a learning disability, the child who is beginning to show an inability to work with symbols or to think abstractly.

The High Challenge child needs a teacher who bases her attitudes toward him on the premise "He would if he could," instead of "He could if he would." He depends upon the sensitivity of his teacher. As soon as the classroom teacher accepts the concept that small children would do assigned tasks in reading, math, and writing if they could, she is well on the way to asking the questions which will find the reasons why they can't, and find ways that they can.

Why is squirmy, smart, charming little Danny unable to read very well, and totally unable to complete a written assignment? Why is clumsy, quiet, shy Pamela able to copy and write so well, but unable to get any meaning from her reading? Why is distractible, dear, verbally fluent Sally unable to use this remarkable verbal ability? Why is William, a good reader, unable to focus his attention on anything long enough to make use of his competence?

Children are as various and unique within themselves as they are among themselves. Don is strong in reading. Sam is weak. Sally is strong in spelling. Jim is weak. Joe is a strong runner. Steve is weak. Every day children find themselves in implied races and their abilities are held up against the abilities of others. If they are "High Challenge" children, most often these abilities are shown to be deficient and with this deficiency a failure pattern has begun. The child's sense of worth begins to deflate and his strengths - every child has areas of strength - begin to atrophy.

To avoid this failure build-up, a new way of looking at children must become the automatic pattern of each primary teacher. Potential dropouts can begin their dropping out before the first semester of the first grade is completed. An ego-shattering experience with an insensitive teacher can start the withdrawl ever earlier. Teachers continue to be important to the child's sense of self after these primary years, but never again as important as then.

If children must be judged, then they must be judged against themselves and not against each other. Never, never can a teacher look at any standardized test, and see only a final score - a global evaluation. C or A or B on a readiness test carries no real information. Even at the low end - the D and E communicates nothing. Only the specific sub-tests are of any diagnostic use to the teacher. The teacher must look within each test to each sub-test, which makes up the global score, and understand what these sub-tests are attempting to tell her about the child.

Let us look for example at three children, all with a high risk for a learning disability, but with a global score of 45 or C on their Metropolitan Readiness Test, Form A, which was administered during the spring while they were in kindergarten:

SALLY	45	C
Word meaning	9	
Listening	9	
Matching	10	
Alphabet	→ 3	
Numbers	→ 4	
Copying	10	

JACK	45	C
Word meaning	9	
Listening	9	
Matching	→ 3	
Alphabet	10	
Numbers	13	
Copying	→ 1	

THOMAS	45	C
Word meaning	→ 2	
Listening	→ 2	
Matching	10	
Alphabet	12	
Numbers	12	
Copying	7	

The area or areas which suggest a difficulty have an arrow pointing to them. The crux of these examples, all with exactly the same score, the same average score, indeed the crux of the approach to the High Challenge child is searching for the child within the score.

Each of these children needs individualized help. Each needs help in a different area. Sally is probably more ready than the other two because the areas in which she fell down are those which will be taught in the first grade. Her suggested auditory and visual competence should make the learning of these school skills an easy matter. Jack and Thomas are the children this handbook is concerned with, children who may have problems in the motor, visual or auditory areas, children who do not achieve academically even though their intelligence is average or above, children who have developmental gaps which are suggested by their readiness tests, by the daily evaluation of their teacher, and by the periodical evaluation of resource consultants and psychometrists.

This handbook will contain the developmental characteristics of the High Challenge child compared with the average child, suggestions as to the etiology of learning disabilities, a model for standardized and informal evaluation beginning with the classroom teacher through various phases which include trained consultants, psychologists, and medical consultants, developmental techniques and materials for areas of weakness at any level before the academic, and special techniques and materials for presenting academic subjects to the High Challenge child. The handbook is in loose leaf form to enable the teacher to file new material as the High Challenge staff makes it available. Also, knowledge is changing and expanding rapidly, therefore all material in this handbook must be thought of as tentative.

ETIOLOGY

ETIOLOGY

As teachers we can to some extent be unconcerned about the etiology of learning disabilities. Despite causes we must take the children as we find them, and then look for the child within each child, strengths and deficits, using his strength to build up his areas of deficit.

Still, as professionals, we should at least know something about the theories of causology. Many authorities believe in the concept of "minimal brain dysfunction." This concept is particularly thought of as a primary causative factor in the fieldsof medicine, psychology, and education. One reason that organicity, some problem in brain function, is suspected, is because the case histories of learning disabled children tend to contain one or more of the following factors:

1. Another learning disabled child within the immediate family - parent, grandparent, or sibling.
2. Prenatal, natal, and post-natal disease or trauma.
3. Severe illiness such as encephalitis or meningitis.
4. Adopted.
5. Convulsions - high temperature.
6. A severe blow to the head.

No one has been able to pinpoint this dysfunction with precision. The studies which have been made are not clear. But problems are apparent, and seem to be growing. This may or may not be a real rise in number. Many factors could explain this rise:

1. The refinement of diagnostic techniques and skills over the last several years.
2. The more precise classification of the learning and behavioral disorders of children.
3. An apparent increase in the number of children compromised by neurologic dysfunctions, which, unfortunately, is often the unintentional aftermath of advances in medical knowledge and care.
4. A growing dissatisfaction on the part of many medical workers with purely psychogenic and interpersonal explanations for any disorganized or poorly understood behavior.

The concept of "minimal brain dysfunction" is approached by two extremely differing views:

1. The purist point of view is that "minimal brain dysfunction" is often an unproven presumptive diagnosis. Therefore, the concept can have little meaning and acceptance until such time as our knowledge is greatly increased and our diagnostic skills remarkably refined. Brain dysfunctioning can only be inferred until physiologic, biochemical, or structural alterations of the brain are demonstrated.

2. The pragmatic case might be presented in the following manner: With our limited validated knowledge concerning relationships between brain and behavior, we must accept certain categories of deviant behavior, developmental dyscrasias, learning disabilities, and visual-motor-perceptual irregularities as valid indices of brain dysfunctioning. They represent neurologic signs of a most meaningful kind, and reflect disorganized central nervous system functioning at the highest level. To consider learning and behavior as distinct and separate from other neurologic functions echoes a limited concept of the nervous system and of its various levels of influence and integration.

We cannot afford the luxury of waiting until causes can be unquestionably established by techniques yet to be developed. We cannot postpone managing as effectively and honestly as possible the large number of children who present chronic differences we feel are more related to organicity variables than others.

This handbook takes the view of the pragmatist. Irregularities in performance are certainly present in these "High Challenge" children. We cannot wait until a cause is found to prescribe a course of action. Therefore, we will plot out a course of action - an individualized program which takes this child as he is, and accepts him, then teaches him, using the techniques and procedures described in the handbook.

BIBLIOGRAPHY

Clements, Sam D. Minimal Brain Dysfunction in Children. Washington, D.C., 1966.

DEVELOPMENTAL CHARACTERISTICS

(Average child and "High Challenge" child)

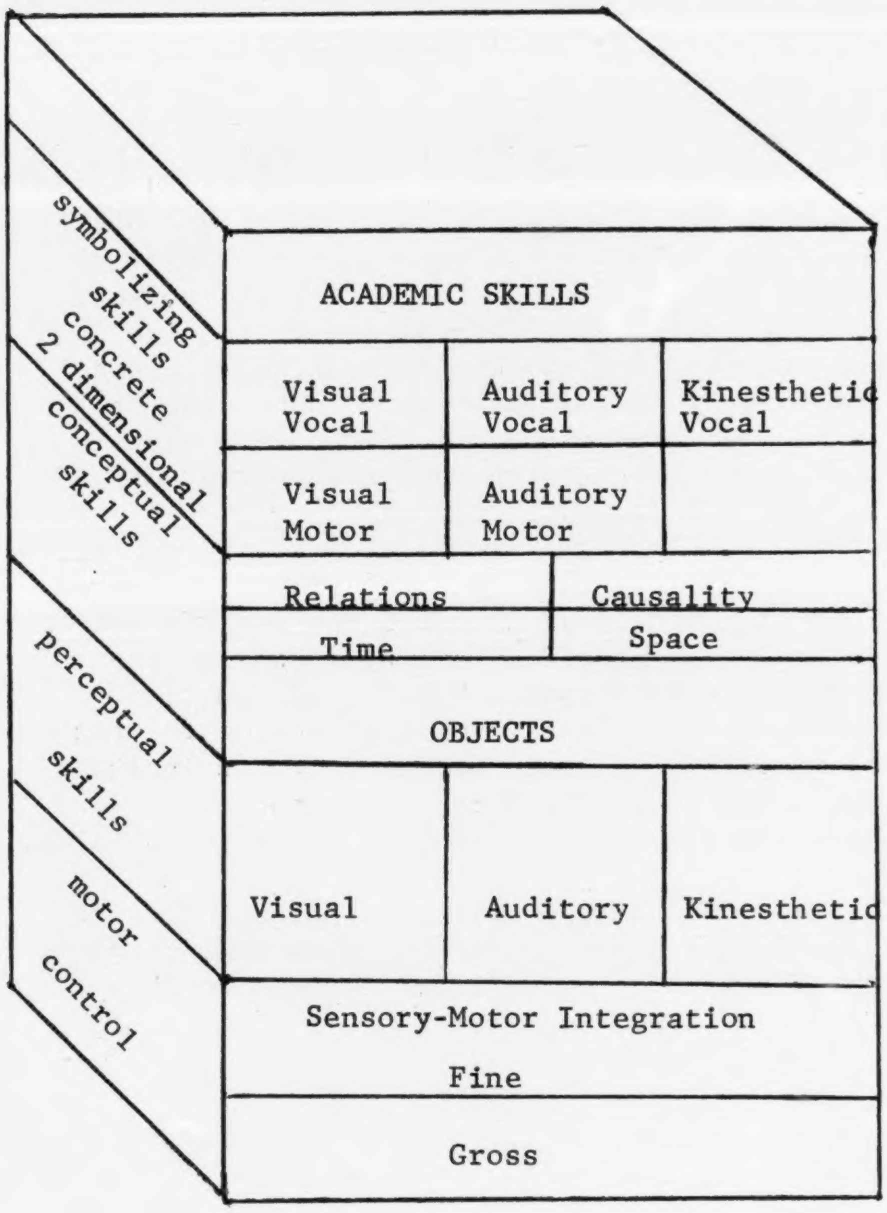
DEVELOPMENTAL CHARACTERISTICS

(Average Child and High Challenge Child)

Children who are six sit in our first grade classrooms and present us with different pictures each day. The same child can respond like a seven year old during arithmetic, a six year old during reading, and a five year old on the playground. This is a truism, and one any and all first grade teachers would accept. They have always known their six year olds can revert to five year old responses when placed in a new environment, when tired or frustrated, or perhaps behave as a five year old because of immaturity. She also knows that they become like sevens when they are intrigued with an activity, when they are rested, or who behave as a seven year old consistently.

In the High Challenge program this point of view is accepted and carried to its logical extension. Children who are six not only behave like five and seven at times, but also can at times and in certain areas of their development behave and function even on the one and two year old level. In fact, one of the teacher testing devices, Activity Inventory Sheet, which is included later in this handbook contains skills which are expected of a one year old, but which are sometimes missing in our six year olds.

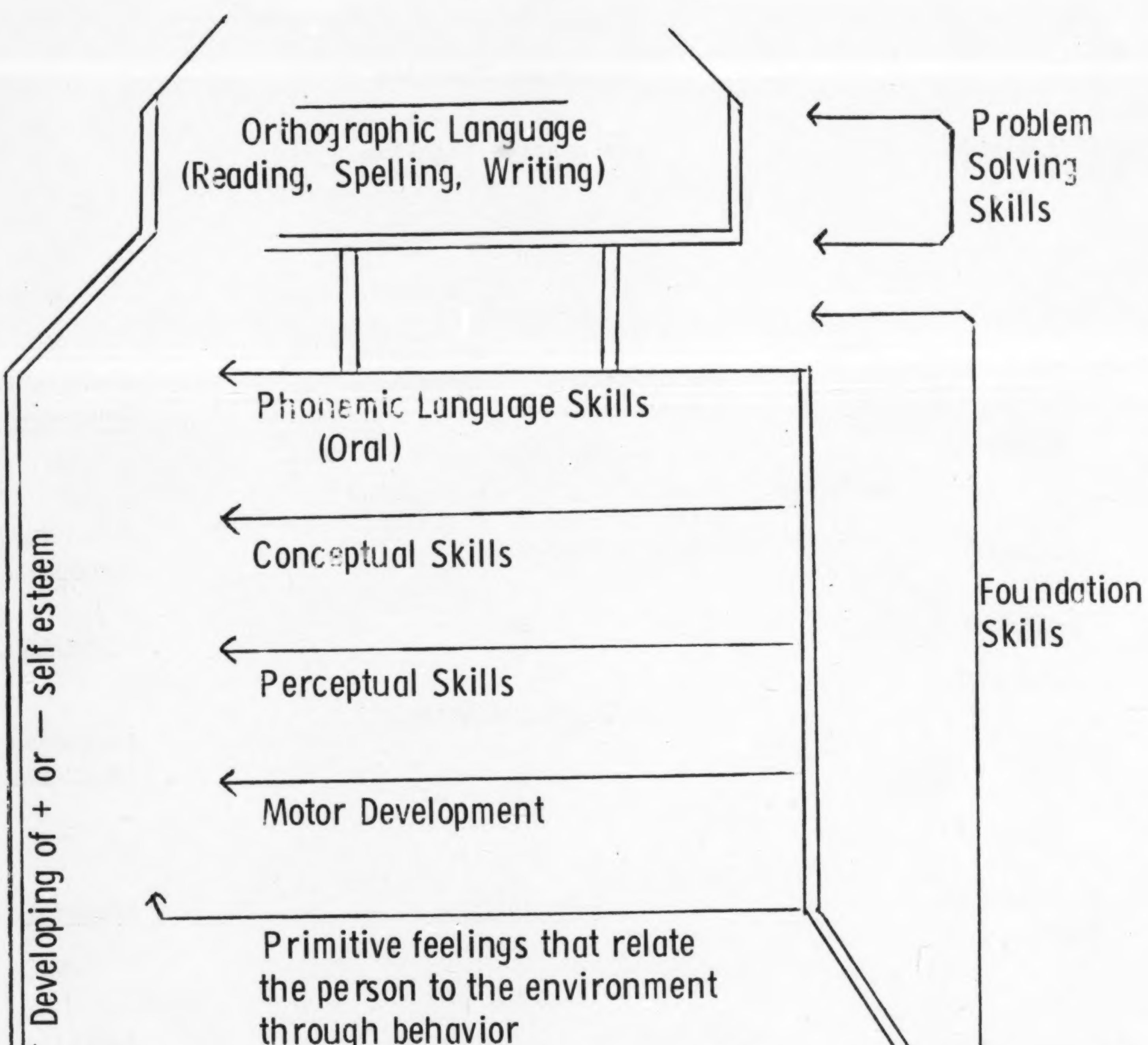
Dr. Mary Joe Keatley, head of the Psychological and Testing Department of the Tulsa Public Schools, has prepared some graphic representations of the stages of a child's development on the following pages.


symbolizing skills
concrete
2 dimensional
conceptual skills
perceptual skills
motor control
ACADEMIC SKILLS
Visual Vocal
Auditory Vocal
Kinesthetic Vocal
Visual Motor
Auditory Motor
Relations
Causality
Time
Space
OBJECTS
Visual
Auditory
Kinesthetic
Sensory-Motor Integration
Fine
Gross

PREPARED BY:
Mary Joe Keatley, Ed. D.
Director, Psychological and
Testing Department
Tulsa Public Schools

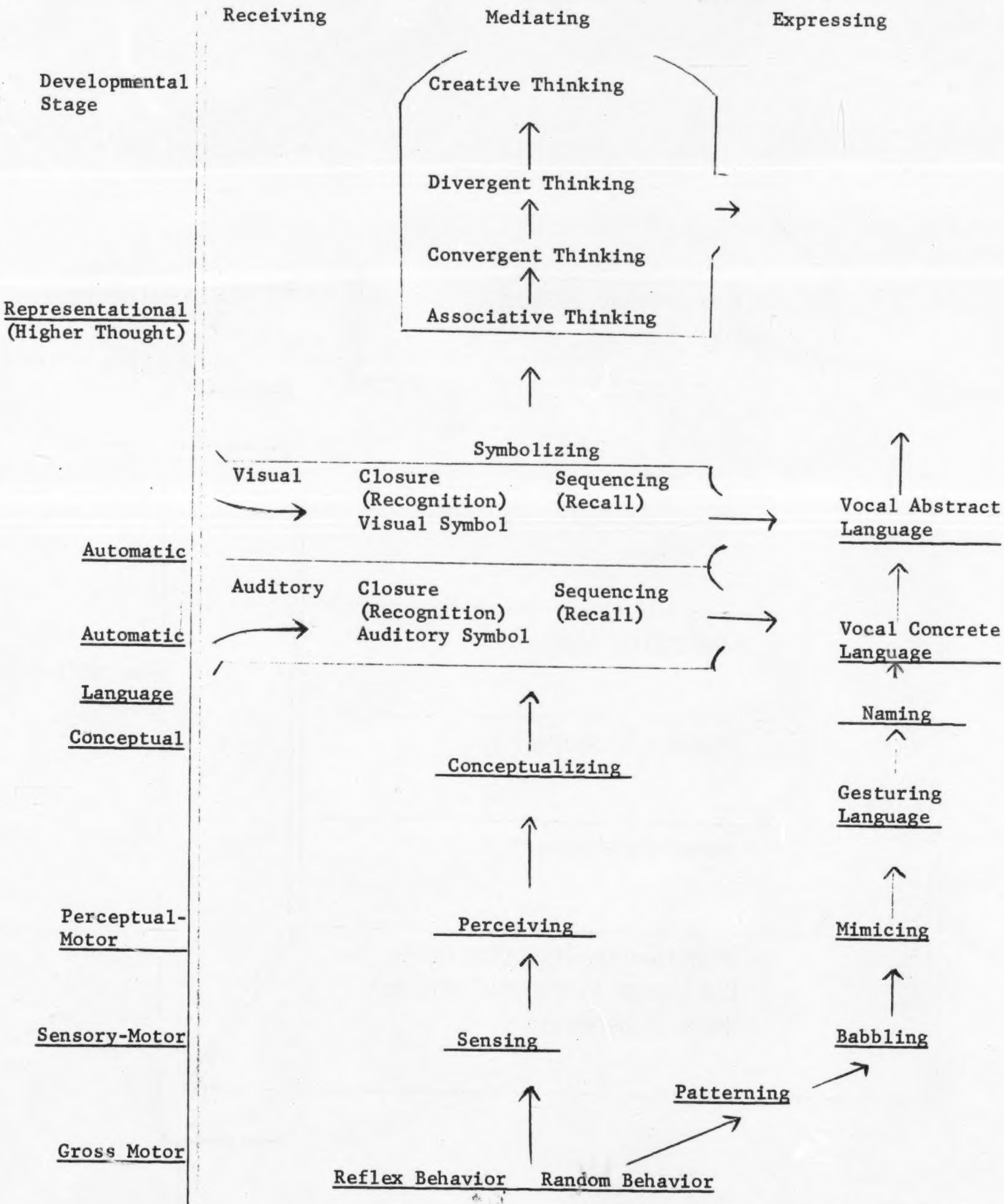
Prepared by: Mary Joe Keatley, Ed. D.
Director, Psychological & Testing Dept.
Tulsa, Public Schools

FOUNDATION SKILLS


Orthographic Language
(Reading, Spelling, Writing)
Problem Solving Skills
Phonemic Language Skills (Oral)
Conceptual Skills
Perceptual Skills
Motor Development
Primitive feelings that relate the person to the environment through behavior
Foundation Skills
Developing of + or — self esteem

A MODEL OF CHILD DEVELOPMENT BASED ON LEARNING

The Integrative Process


Receiving
Mediating
Expressing
Developmental Stage
Creative Thinking
Divergent Thinking
Convergent Thinking
Associative Thinking
Representational (Higher Thought)
Symbolizing
Visual
Closure (Recognition) Visual Symbol
Sequencing (Recall)
Vocal Abstract Language
Automatic
Auditory
Closure (Recognition) Auditory Symbol
Sequencing (Recall)
Vocal Concrete Language
Automatic
Language
Naming
Conceptual
Conceptualizing
Gesturing Language
Perceptual-Motor
Perceiving
Mimicing
Sensory-Motor
Sensing
Babbling
Patterning
Gross Motor
Reflex Behavior
Random Behavior

Revised 11-20-68

Prepared By Mary Joe Keatley, Ed. D.
Director, Psychological & Testing
Tulsa Public Schools

Average or otherwise, each child begins with a motor base. As parents we spend the first year of our child's life watching his body develop and accepting the fact that his intellectual development is implied by this motor development. Johnny walked when he was nine months old, i.e., Johnny is smart. This motor foundation needs to build solidly, as do the perceptions on the next level, the visual and auditory, to enable the child to function successfully on the learning levels expected in the first grade. If there is a gap in any of the areas of development, motor, visual, auditory, kinesthetic, or tactile, a problem may become evident in the academic area. For years we have blamed many problems in the academic area which have been caused by gaps in development on emotional problems -- the affect area.

The High Challenge handbook will accept the philosophy that a child can have developmental gaps in any area which can cause learning problems when the child enters school. The development expected in each area will be described in the sections of the handbook dealing with each individual area.

The areas covered will be those in Dr. Keatley's developmental profile as well as the affect areas. In order, the areas are:

1. Motor
2. Visual
3. Auditory
4. Haptic - (Kinesthetic - Tactile)
5. Body Concept
6. Affect
7. Academic
    a. Language, including reading, writing and spelling.
    b. Mathematics, including operations, measurement and comparison.

The child who is totally average in all his development (an impossibility) would look something like this:

> In physical development the child would be growing more slowly and lengthening out. His large muscles would be better developed than his small ones. His eyes are not yet mature. There is a tendency toward farsightedness. His permanent teeth have begun to appear. His heart is in period of rapid growth.
>
> In cognitive development the child is learning to apply meaning to symbols. If this does not occur readily he is painfully frustrated because of the high value he feels is placed on it. His thinking is at the associative and convergent levels. His drawings tend to come from memory rather than a model and will be large or small according to their importance instead of their actual size. The child can begin to think abstractly as shown in an ability to work with numbers.

In affect development, the six year old wants to satisfy adults. They are still more important to him than his own peers. It is a time when the child first becomes aware of himself in competition with others, both in the classroom and on the playground. Without a sensitive teacher even the average child can be left with a long lived feeling of interiority.

This in very general terms is a six year old. Now we need to find for our needs, a description of the concept of the High Challenge child.

In almost every primary classroom are found several pupils who are, from the very outset, unable to deal satisfactorily with many learning tasks, especially the decoding skills related to reading, spelling, numbers, and writing. Some few of these children will be found to have visual, auditory, or other peripheral handicaps, the correction of which will permit them to function adequately in the regular school setting. Still others may be so severly handicapped, either physically or mentally, that placement in a Special Education class will be necessary to meet their needs.

In addition to the pupil having peripheral handicaps, there remain a sizeable number of children who, for no readily apparent reason, are acutely limited in their school performance. While the precise nature of their functional limitation may not be obvious, experience verifies that its subtly debilitating influence accumulates year by year. The continuing cycle of failure, frustration and academic retardation frequently results in a complicating emotional overlay, culminating several years later in the students' dropping out of school before graduation.

The early identification of these children, who will challenge the skills of even the very best teachers, is essential if we are to be successful in breaking this unfortunate cycle. These pupils seem to need exposure to a different, more individualized educational program. Otherwise they are almost sure to fail. While it is true that the primary teachers can usually recognize the young child who will likely experience difficulty, they often lack the skill to take the next two necessary steps, namely (1) to diagnose the specific learning difficulty, and (2) to order the elements of the learning task to enhance the probability of success for that child.

The evidence now available suggests that the "normal child approach," while valid for most children, is simply not appropriate for the "High Challenge" child. What appears to happen is that teachers in the regular classroom, even while intensely interested in helping the non-achieving child, continue teaching to the hypothetical "normal" child. Furthermore, the understandings and insights offered by supervisors and psychologists have apparently offered little to the teachers in the way of tangible, specific, educational diagnosis and educational procedures that may assist them in helping the "High Challenge" child experience more success in school.

There are those educators who insist that teachers in the regular classrooms cannot be expected to teach both the children in the "mainstream" (the hypothetical "normal" children) and the children we have designated "High Challenge." According to these educators, children who deviate from the "norm" must be accommodated by specially trained teachers in Special Education classes. Sufficient funds are not available in this state to finance the number of Special Education classes needed if these children are excluded from the regular classroom. Nor are there enough trained teachers. Beyond the financial problem lies the still unresolved issue whether it is better to segregate minority groups of children in an effort to promote school learning or to retain natural groupings and try to find new ways for proceeding with instructions, utilizing subgrouping within the classroom.

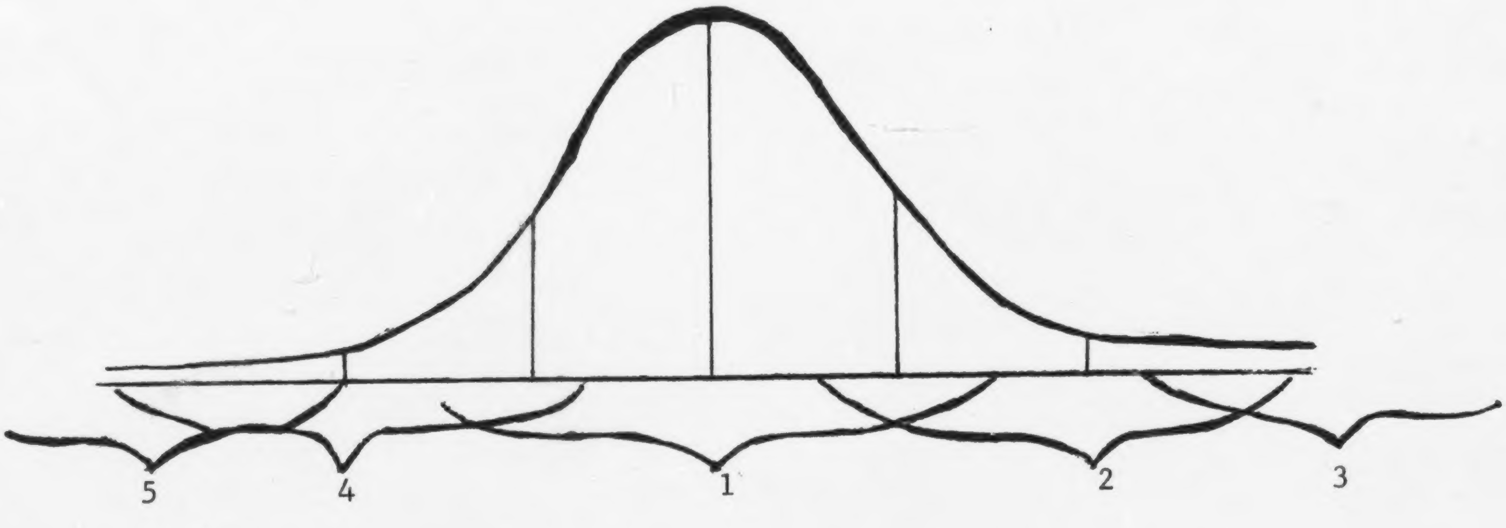
Focusing on the improvement of instruction for the "High Challenge" child does not automatically dispose of Special Education classes. Rather, focus in this direction should improve the composition of Special Education classes. Too frequently Special Education classes are used as a "dumping ground."

"Let's get this child out of the room," we hear the principal and teacher saying.

"The child does not belong in Special Education," we hear the Special Education people saying.

"But where does he belong?" We hear the parent saying.

Within the six-year-old age group there usually are to be found several rather easily identified groups. These groups are suggested in the following diagram.



Group #1 is composed of children whose functioning is fairly typical for first grade. These are the children that the average first grade teacher envisions as she plans her lessons.

Group #2 and #3 are composed of children who are bright, eager, well motivated. These children will learn, almost without the teacher.

Group #4 includes our "High Challenge" children. These children need special consideration and help. They are the forgotten children; children whom the adult may write off as being "lazy," "not motivated," etc.

Group #5 is composed of children who need special consideration and placement in an appropriate Special Education class.

The following detailed chart (adapted from "Curriculum for Perceptually Impaired," Tulsa Public Schools, 1969) will delineate the comparisons between Group #4, the "High Challenge" children, and Groups #1, #2, and #3, the average, academically successful first graders.

PHYSICAL
CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Eyes not completely developed.	Same, or may be more pronounced. Low visual ability to focus on small, fast-moving objects. Eyes do not meet at distance. Lacks smoothness in eye movements. Eyes do not follow target simultaneously.	Ocular evaluation. Limit eye activities required to shift eyes from board to desk. Eye development and strengthening activities.	Ocular exercises. Large print. Chalkboard work written with manuscript writing using 3/4 inch spaces. Use sight-saving materials. Markers with slits. Seatwork on worksheets instead of chalkboard. Sheets of pure white paper with magic marker drawn lines. (Figure ground). Use color coded paper.
Hand and eye co-ordination adequate for expected school tasks.	Cannot manage expected schoolwork. Very poor visual-motor apparatus. Laterality problems. Tendency for reversals evident. May lack eye dominance. Direction confusion: (Spatial Relations) (Position in Space) (Form Constancy) (Figure Ground) Does not dress with efficiency. Poor in sports.	Proper lighting. Control of physical environment in relation to special senses. Sequenced Therapeutic exercises for visual-motor development.	Chalkboard exercises to develop directionality (eye exercise). Tracing for re-patterning to correct reversal problems. Various **didactic** materials such as pegs, sorting games, cutting, pasting, and tying frames. Psychomotor gross motor activities (jumpboard, balance beam, form box, etc.). Eye-hand training exercises (Pathway Kit).

PHYSICAL
CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Gradual growth in weight and height. Children differ widely in physical growth. Bones soft - arms easily broken. Almost constant activity.	Same. Habit of rising to their toes, walking on their toes. Stand or sit with every muscle stiff. Apt to move their forearms and hand in the air when excited. Appear clumsy and hesitant in their movements. Not sure how to go around a desk, often touch the walls as they walk, bumping into doors or other children unaware of body parts, their position and their function.	Posture exercises. Daily health observation to teach health conservation. Because of safety factor, requires close supervision Patterns of mobility.	Practice correct posture-strengthening exercises. Closer observation to detect possible physical and mental deterioration Through posture exercises, child should be able to maintain a constant orientation to the earth's surface and to maintain a relationship to gravity. Practice simple re laxation exercises. Teach kinesthetic awareness, movement of a part, and movemen of the body as a whole.
Large muscles developing faster than small. Rapid heart growth. Lungs small.	Same. Lag in development of large muscles of some children. Often poor locomotion skills. Physical development often uneven for compensatory muscles. One side of body growth ahead of the other. The other side of the body is found quite often to be weaker and less coordinated.	Repeated activities to develop large muscles. Skeletal muscle exercise to strengthen heart. Protection against heart strain, over-stimulation and excitement.	Gradual and increasing physical use of skeletal muscles. Provide a variety of simple, large muscle developmental activities. Such as activities to develop balance and posture: 1. Bending activities. 7. Rolling. 2. Pushing & Pulling. 8. Sitting. 3. Swinging. 9. Crawling. 4. Turning & Twisting. 10. Walking. 5. Shaking. 11. Running. 6. Stretching.

PHYSICAL CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Fatigues easily. Becomes fretful when fatigued. Physical tolerence low.	Same. Tires more readily. Often increased fatigue accompanied by less control of temper tantrums. Distractible. Uninhibition. Perseveration. Does not respond to change of directions. Impulsivity. Over-stimulation. Hyperactivity.	Educational environment with short and varied activities. Frequent rest and relaxation periods. Quiet private place to work. Few materials at one time. Reduced stimuli. Help in being able to organize thinking.	May be able to handle only ½ day sessions. Play quiet games. Play with clay. Change activity frequently. Remove from group. Help child shift gears; carrels or booths. Assignments on worksheets rather than chalkboard. Know tolerance level of child. Reduce level of material. Psychotherapy. Teach relaxation. Use few materials at a time. Structural, organized classroom situation.
Balance more highly developed; increased body control. Cognizant of need to practice for improvement of skill and to win social status.	More inco-ordination, usually perceptual (often walks with a shuffle and bumps into things). The awkward gait begins to disappear faster with training but time is the one factor which cannot be rushed. Not often discernible except to trained observer. Almost imperceptible in prepuberty.	To develop a composite of proper functioning of the semi-circular canals. Appropriate use of vision in steering and guiding movement to hold alignment. The development of a kinesthetic awareness of surface contact. To be put in circumstances requiring balance, bilaterality, flexibility and rhythm. Positive reinforcement.	Motor development activities. Correction is slow - requiring patience, time and encouragement. Frequent use of balance beam. Employ physical activities requiring walking, running, jumping, crawling, leaping, creeping, and balancing skills, in sequential order. Exercises requiring the use of alternating sides of the body for development of laterality. Plan experiences which teach children to visually steer and guide their movement. Have children become aware of surface textures and the feeling of their bodies in various positions. Activities must always demand visual targeting while attempting to balance.

PHYSICAL
CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Handedness usually determined.	Handedness preferance often not developed. Proneness to have more left-handed children than in an average group.	Activities to establish dominance. Help left-handed child to adjust to right-handed world. In cases of undeveloped laterality, emphasize use of preferred side. To use preferred hand if there is a strong tendency to favor either side.	Exercises that involve large movements. Special attention to left-handed child through guidance. Offer articles in such a manner that individual naturally uses preferred hand. Place school working tools on side of dominance that is being developed. Place ring or bracelet on preferred hand.
Commencing to lose old teeth and get new ones. Normal to mispronounce certain sounds, especially the frictive sounds (s, z, sh, ch).	Same. May have expressive speech problems.	To understand this part of normal growth process. Make comfortable, not self-conscious. Observation of speech patterns.	Good stories about losing teeth. Special attention given to commonly mispronounced sounds.
More susceptible to diseases and respiratory infections. Quite often sicker with illness than earlier. Usually takes responsibility of bladder control.	Same. Also subject to tenseness, nervousness - sometimes seizures. Stomach aches and vomiting in connection with going to school. Appear to have unlimited amount of undirected energy.	Good health habits at school. Proper dress, food, training in cleanliness at home. Frequent rest periods.	Since some children often can't remember, special attention and training needs to be given to the importance of wearing wraps outdoors, removing wraps indoors, and how to wash and dry hands. Period of rest and relaxation to follow more strenous activitie Training in bottoning and tying. Check on child's family history through school nurse. May need to be reminded to take a rest room break.

SOCIAL & EMOTIONAL
CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Desires recognition from peers and adults.	Unable to relate to peers. Actually, usually tries harder to win approval, but may give impression of not caring as a defense mechanism. Fair treatment essential. Needs support, encouragement in learning and behavior. Easily bribed by other children. Set up by peers to be corrected by teacher or get in trouble. Often opposes and is hostile to group.	To feel successful. Recognition and praise when warranted. To be protected from other peers and teachers who do not understand child.	Permit child to do what he is able to do to feel successful. Capitalize on particular abilities. Display achievement. Avoid sending inferior work home. Program for success - then, praise only worthy work. Climate will need to be set on control environment in order to promote a more positive attitude toward child.
Employs naughty words for shock effect.	Same. May lack awareness of the inappropriateness of certain words in particular situations. Cursing related to involuntary control. May know he said something wrong, but would be unable to say that same thing voluntarily.	Training to make adequate responses to social situations. Good models to pattern behavior.	Since these children tend to repeat a response, where inappropriate language is used, it is absolutely nedessary to help children restructure this unsuitable response to a more suitable one. Role play adequate responses. Use clay, finger paint, etc. to release hostility.

SOCIAL & EMOTIONAL
CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Increased ability to join in group work and less absorption in self. Need to feel they belong to the group.	Unable to function in a group. Very self-centered. Continual misfit and disruption to normal classroom procedure. Often demonstrates peripheal involvement unpredictably hostile and cooperative. Hostile or opposes credit given to others.	To work alone until organization and orientation to suitable behavior becomes more developed. Constant monitoring of behavior. Leadership experiences. To express hostility and frustration in a more passive manner.	Assign work alone, with seat facing plain wall, in a booth to eliminate distractions Gradually place child in small group situations when he can react satisfactorily. Determine why child cannot work in a group situation. Give careful instructions on leadership opportunities. Teacher must guide carefully. Use clay, finger paint, and drawings. Role play adequate response
Desire for acceptance, affection and sense of belonging. Extremely possessive of his belongs.	Same. Often hoards. Want acceptance but do not understand how to achieve acceptance. May seem out of contact and his responses to others may be masked by many undesirable behavior characteristics.	To feel comfortable with others. To be accepted by adults and peers, to feel secure, even after emotional collapse. Have good models to pattern behavior, to develop favorable attitude, to develop a sense of humor, to experience the giving as well as the taking of trust.	Teacher must show interest and concern. Work with parents through conferences, discussing best means to effect right social adjustments toward school. Afford practice in showing kindness to others. Provide desks, shelves, etc. that belong to only one individual. Should be assured he is good, but that some of his actions are not acceptable behavior. Role play adequate responses. Provide experiences or opportunities to do chores for the teacher which indicate to the child that he is trusted. In return teachers can respond with appreciation to the child's trust in them.

SOCIAL & EMOTIONAL CHARACTERISTICS AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Evidence of fear caused by: 1. Thunder 2. Loss of blood 3. Criminal characters	Subject to nightmares - tend to be out of proportion (effects of day cause horrible dreams which affect work the next day). Exhibits extreme fear when parent (or parent substitute - teacher) are out of sight. Worries about little cuts, scratches, insect bites.	Guidance in overcoming unnecessary fear. Reassurance. Even-tempered. teachers, parents, understanding friends. Consistent support very gradual. Security in consistency.	Teach caution rather than fear. Discover causes of fear and help child develop intelligent attitudes toward it. Place child in happy situation. Bibliotherapy. Expect to retain child in room until he can be picked up by those expected. Before sending child on errand or to office, make sure he knows where he is to go. (May get lost).
Wants to be first, aggressive, stubborn, but can accept not being first.	Same - only more pronounced. Unable to accept not being first, losing, having to obey rules and conforming. May or may not be rude is unpredictable.	Understanding of his rightful place and rightful place of others. Firm, consistent but understanding discipline and guidance.	Teacher should refrain from talking all of the time, speak in a well modulated, calm assuring voice. Avoid games and activities that are highly competitive. Role play adequate responses. May need to be reminded who is leader in an inconspicuous manner.
Readily stimulated and over-excited.	Over-stimulated by irrelevant details. Tendency to perseverate when overly stimulated. Cannot stop a stimulated behavior. May be distractible hyperactive and disinhibited.	Quietness, calmness. Requires when he begins perseveration to be quietly led to another activity. Consistency.	Teacher should refrain from talking all of the time, speak in a well modulated, calm, assuring voice. Avoid games and activities that are highly competitive. Provide opportunity for child to learn to lose and win, (at first he will need to win more than lose). Carrels used as a private office. Opportunity for body movement structural assignments and activities on his level of development. Use of clay or sponge ball to squeeze. Change physical position.

SOCIAL & EMOTIONAL CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Lacks self-control and restraint.	More pronounced. Very impulsive. Heedless of consequence of behavior. Lacks caution because he cannot anticipate and evaluate. Little respect for authority. Often suffers inward, emotional collapse. Compulsive. Hyperactive.	Guidance. More emphasis of acceptable social behavior. To learn he must accept consequences of his behavior. Consistency.	Specifically planned lessons in safety (give actual practice in safety situations) Provide planned experiences for teaching courtesy, sharing, respect for others (cannot learn by just hearing, or through various vicarious experiences). Correct behavior by firm touch instead of verbally. Discipline. Let child leave the room by teacher's signal. Recognize when child is being used as a scape-goat by peers. Positive attitude displayed by teacher - children will respond likewise. Clay play - sponge rubber ball to squeeze. Structural assignments.
Experiences confusion by changes.	Changes are almost intolerable cannot function. Very inflexible. Does not understand abrupt changes - must have structure.	To feel sameness in school experiences. Changes require adequate preparation rather than spontaneous encounter.	Provide opportunity for child to learn to lose and win (at first he will need to win more than lose). Well planned consistent assignments. Much repetition in an activit then gradual introduction of variations int schedule. Teacher must set up several simple tasks to learn how to change - must be reminded in advance.
Tends to imitate.	Most often, a follower. Prone to imitate those who cause trouble, and loses own self-control. Words sometimes not real - but imitation. Low level comprehension. Poor judgment. Unable to draw conclusions. Unable to draw inferences.	Good example set of right conduct, character and speech. Good models to pattern behavior.	If fanciful stories are read, assist the child in perceiving the information correctly. Engage in conversations about good behavior. Insist upon good behavior. Reward good behavior. No re-inforcement of bad behavior. Assign child to a good peer model for some of expected activities. Do not reinforce negative behavior.

32

INTELLECTUAL CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Children learn best by concrete situations rather than indirect situations. Can manage new information before complete assimilation of old.	Same. Essential - abstract material is too hard. Each new concept must be understood thoroughly before new information is presented.	Educational program developed around concrete experiences. Opportunities for participation in the program. To develop or establish a perceptual-motor match between his senses and movements of his body. Review often.	Base learning on activity. Use all the senses in educational experience. (Kinetic tasks especially lend themselves to the concrete). Develop a gross motor and fine motor activity situation. DLM Didactic Materials such as puzzles, pegs, parquetry, blocks, etc. Structured, organized classroom situation. Drop back to lower level at first sign of frustration.
Inconsistent in level of academic progress.	Same. Doesn't retain seemingly mastered. Easily affected by changes in environment.	Short periods of instructions. Frequent rest periods. Generalize motor and mental concepts. Continue limited educational programs in summer.	Provide flexible program. The range of activities should afford repetition and varied centers of interest. Structure and sequence classroom activities. Teacher generalize motor and mental activities, not splintered skills.
Short attention span.	Same. Often unable to focus attention on single thing. Highly distractible. Prone to concentrate on irrelevant happenings, or insignificant details. Short attention span. Attention span is fleeting, pursuits of endeavor appear aimless	To develop ability to concentrate on given task. Quiet private place to work. Few materials at one time. Reduce stimuli. Help in being able to organize thinking.	Eliminate distracting details from assignments. Simplify conceptual tasks and keep in sequential order. Abstract essential features. Use booths and carrels. Numerous short assignments. Be sure child finishes each assignment before a new one begins. Relaxation exercises. DLM Didacti Materials. Limit area of focus. Structural organized classroom situation.

INTELLECTUAL CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Receptive to instruction. Eager to learn.	Often antagonistic toward learning situation, especially if from a regular classroom where repeated failure was experienced. Displays anxiety-apprehension.	Break failure patterns. Establish self-confidence. Body image. Body concept. Body awareness. Must be motivated by successful experiences.	Program academic work for almost complete success. Break academic tasks into small enough components that success is apparent to the student. Positive reinforcement - rewards. Have child to over-learn each step - become automatic. Reinforce motor or perceptual motor activity by having child verbalize what he does.
Disparity of individual potentialities.	Same. More adequate abilities more fully developed than areas of disability. Extreme highs and lows in varied areas.	Educational program to stimulate use of less adequate abilities in order to bring these disparate processes into more even balance.	Regulate learning program to individual needs. Individualize instruction. Establish attainable goals. Teach through child strength. Sequential patterning. Individualize program. Closure - finish task.
Developing ability for reasoning.	Poor in abstract thinking, because of faulty patterning or erroneous perception. Perceives the whole only in terms of the details, and the details dictate his response. Experiences are not well integrated and child cannot manipulate them freely. Difficulty with relationship of parts to whole and to each other.	To develop understanding of the conceptual task. To perceive given stimuli correctly.	Provide a comfortable, therapeutic classroom environment. Offer a teaching program which enables child to organize his experiences more adequately. (Must be taught to see whole from a series of parts that are familiar, but with dissimilarities, or to generalize). The teacher needs to actually point out relationships. Arrange tasks that involve materials such as, parquetry, block designs, peg boards, cutting, geometric form copying, decoding sheets, puzzles, matching, sorting, classification, linguistic approach.

INTELLECTUAL
CHARACTERISTICS

AVERAGE CHILD (5-6-7)	HIGH CHALLENGE CHILD	NEEDS	MANAGEMENT AND TEACHING TECHNIQUES
Strongly imaginative, vivid, creative, dramatic. Often confuses reality and fantasy.	Confusion of reality and fantasy is very marked. Sometimes confuses dreams with reality. Retains pre-school animistic thinking. Does not dissociate living from non-living, because of difficulty of earlier concept.	To distinguish between reality and fantasy.	Provide many realistic experiences that help him organize his perceptual field correctly. Read about typical every-day happenings.
Needs to achieve and feel successful.	Same. More pronounced. Lacks self-confidence and self-worth.	To achieve and be successful. To build self-confidence and self-worth. Body concept. Body awareness.	Body image training. Lesson series that provide a sequence of short tasks that the child can complete comfortably and correctly. Initially, offer no choice, set limits use simple sentences when giving directions. Be certain child knows exactly what to do.

BIBLIOGRAPHY

Coffman, Alice O. Fun While Learning at Home. University City, 1968.

Ebersole, Mary Lou, Newell C. Kephart, and James B. Ebersole. Steps to Achievement for the Slow Learner. Columbus, 1968.

Frierson, Edward C. and Walter B. Barbe. Educating Children with Learning Disabilities. New York, 1967.

Janda, G. Dale, Kathryne Godard, Patricia Griffith, Mozelle Leach, Georgan Reitmeier, and Helen Turner. AIDS: A Guide for Teachers of Children With Varying Learning Abilities. Tulsa, 1970.

McCarthy, James L. and Joan F. McCarthy. Learning Disabilities. Boston, 1970.

Whitehead, Bess M., Virginia Bedwell, Shirley Daney, Paula Umphers, Mark K. Owen, Lee Rand Smith, and Mary Jo Keatley. Suggestions for Helping Children with Learning Disabilities. Tulsa, 1969.

TESTING SEQUENCE

DIAGNOSIS AND TESTING SEQUENCE

When the results of psychological testing for younger children who are experiencing academic problems, are examined, typically there are developmental gaps associated with their learning problems. Broadly speaking, these gaps include: poorly developed visual perception, problems of auditory attention and discrimination, lack of fine motor co-ordination, absence of valid oral language, and/or inadequate cognitive processes. (e.g., deficits in visual or auditory memory, difficulties in usual associations). The difficulties may occur singly or in combination. In one child a single difficulty may be very severe. In another child, there may be a combination of difficulties. On the individual intelligence test profile, a child's erratic performance is typically reflected in both intertest and intratest scatter, as well as in the wide discrepancy between verbal and performance I.Q's. Frequently one glimpses the potential for average or better achievement, yet the reality of the situation is one of poor academic progress.

When the results of psychological testing for older youngsters who are chronically in academic trouble are examined, there are these same kinds of functional disorders or their residuals. It is logical to suspect that for older children the uneven development may have been present for a long time. After some point in time, a developmental "gap" apparently persists unless special individualized instruction is provided. Also, negative emotional attitudes toward school emerge. Behavioral problems may also be present to further hinder the child's social development.

In Tulsa Public Schools, various staff members of the Psychological and Testing Department have worked cooperatively with primary teachers in several elementary schools studying in detail primary children who were in academic difficulty. Some of these schools are in culturally deprived communities. Other schools are in the affluent sections of the city. What has been discovered over and over again was that these low-achieving children were simply not sufficiently undergirded with what we are calling the basic developmental skills so necessary if reasonable academic success is to be experienced. With some of the children a continuing broad readiness program was sufficient to bring them along. A few of the children needed much more concentrated help in specific developmental areas. A small percentage of the children were suspected of having emotional or neurological disturbances. For these children Special Education was necessary.

The task of the educational team who works with the "High Challenge" child is (1) to discover his developmental "gaps," areas of uneven development, and (2) to arrange the learning environment in whatever way needed to provide an opportunity for the "High Challenge" child to accomplish the necessary learning.

The prevention of potential learning disabilities in young school children depends upon (1) early identification of the child with a potential learning limitation, (2) a diagnostic evaluation of the child's strengths and weaknesses important for school learning, (3) an appropriate educational plan for individualized instruction for the child, and (4) continuing reassessment of the child's performance and of our own educational efforts.

Identification of the "High Challenge" child with a potential learning limitation must be primarily the responsibility of the classroom teacher. Most teachers learn to spot this child in academic trouble very early. In addition, many teachers with experience develop skill in evaluating a child's strengths and weaknesses for school learning. Typically, however, such a teacher finds it difficult to communicate her expertise in diagnosis to other teachers. Apparently these skills are acquired almost intuitively. With the current heavy turnover of teaching personnel and the ever increasing range of learning limitations diagnosed in children, we are seeing a wide range of various screening devices and procedures being developed in an effort to systematically identify learning problems in the early years.

In the "High Challenge" project the evaluation of a child's abilities will be accomplished as a combined effort of a psychoeducational team composed of classroom teachers, educational consultants and psychological consultants. The diagnostic screening procedure will proceed at four levels to be explained in the following paragraphs. Following the testing a functional profile can be drawn for each "High Challenge" child using existing test data even though some of these tests are not ideally suited for this purpose. It is particularly important to report the actual skill level attained by the child in given areas of motor, visual, auditory ability, etc. Then, compare the observed performance with the performance typical of a child of his age and/or sex, hoping thereby to more accurately identify areas of strength and weakness. In doing this type of profiling and comparing by age, we must remember that allowance be made for individual differences in performances within even a single age range. At some point, however, a professional judgment must be made as to whether or not a child's development in a given developmental skill is adequate or not. This judgment should represent the combined efforts of the psychoeducational team.

The combined impression of the psychoeducational team will also be used in formulating the final educational plan. The plan must take into account the needs of the whole child. The goal is to promote development of the best functioning child possible. With experience we hope to be able to evaluate the validity of this tentative diagnostic procedure and in the future to create better, more predictive tests. Just as important, we should be able with additional systematic experience, to modify programs of primary grades to prevent potential difficulties.

GENERAL GUIDELINES FOR THE DIAGNOSTIC SCREENING

First, we move from the gross or global screening to the more specific individual screening. Developmental skills to be screened in the first three or four weeks of school include motor, visual, auditory, expressive language, cognitive, and interactive social behavior.

There is no question that good motor performance is essential to making the most efficient use of the intellect and that generally there is a relationship between motor development and achievement in school. This is especially true in the primary grades. Research in visual perception clearly indicates the relationship between total body coordination and the ability to interpret visually the world we live in. Studies in child development have clearly established the sequential development of the child as being a definite step-by-step process with motor development being the base of later higher order developmental processes. On the basis of these studies, it is now believed that if a child skips a stage of development, he is likely to manifest difficulty in the motor, visual, or perceptual areas. The work of such investigators as Gesell, Ilg, Bullis, and Getman (1949) permits the making of judgments concerning the developmental level of a particular child by observing his motor performance. By following over a long period of time large groups of children who manifest motor deficiencies, we can see the clear relationship existing between motor difficulties and speech problems, reading problems, visual perception problems and various other learning difficulties. Therefore motor can be inferred as a base, or a part, of all other developmental levels.

Second, the diagnostic screening is begun by the classroom teacher who will use group tests and other available materials. This somewhat "quick" screening is tentative. It represents the teacher's first hunch about a child's strengths and weaknesses. Revision of the hypothesis for some children is to be expected. The screening tools consist of what we have available. Unfortunately, precise screening tools are yet to be developed. The classroom teacher screening procedures have been designated as Level I screening.

Using the Level I screening instruments, and the judgments of the kindergarten teacher as reflected in the Behavior Rating Schedule, the classroom teacher can formulate a diagnostic hypothesis for most of her children. Examples of a diagnostic hypothesis include:

a. This child seems ready to begin formal first grade work.

b. This child seems ready to begin formal first grade work although he will need some supplementary training in _______.

c. This child's development and behavior are systematic and orderly but are not adequate for undertaking formal academic work. He needs a continuing general program in all the developmental skills areas. (This hypothesis may be appropriate for many of the chronologically younger first graders).

d. This child seems to be in some kind of difficulty. He must be studied further.

e. This child seems to have a serious learning disability related to_______(physical handicap, emotional disorder, extreme mental retardation, unknown). He needs immediate psychological evaluation. (Along with the hypothesis on a-b-c-d-e, a tentative program is begun).

The resource person to whom a classroom teacher turns in diagnosing a "High Challenge" child's learning needs is the Educational Consultant. The consultant is prepared to work alongside the teacher, observing, teaching, and conferring about specific children. When needed, the consultant is prepared to further evaluate a child with a set of tests especially assembled for this purpose. The diagnostic screening procedures used by the Educational Consultant are designated Level II Screening.

The final member of the diagnostic team is the school psychologist. This resource person is available to confer with teacher and consultant about a specific "High Challenge" child. The first appraisal by the school psychologist has been designated Level III Screening and includes monitoring and program evaluation.

The Level IV appraisal is also handled by the psychological specialist and may include an intellectual evaluation, a clinical evaluation, and/or a psychoeducational evaluation according to need.

LEVEL I

Basic Screening Instruments
The Classroom Teacher

A. MOTOR

1. Behavior Rating Scale
   (ratings 1-2-8-21)

2. Activity Inventory Sheet
   (part I also part II number 3-14-15)

3. Metropolitan Readiness
   (copying subtest)

4. Winter Haven Perceptual Copy Forms

B. VISUAL

1. Sprigle Readiness Test
   (visual discrimination subtest)

2. Behavior Rating Scale
   (ratings 3-4)

3. Metropolitan Readiness Test
   (copying and matching subtest)

4. Activity Inventory Sheet
   (part II)

5. Clymer-Barrett
   (word matching, shape completion, and copying subtests)

6. Winter Haven Perceptual Copy Forms

7. Ginn Pre-Reading Test

8. High Challenge pre-writing test

9. Gates-MacGinitie Reading Test
   (subtests III - visual discrimination and VI visual-motor coordination)

C. AUDITORY

1. Sprigle Readiness Test
   (verbal comprehension subtest)

2. Behavior Rating Scale
   (ratings 5-6)

3. Metropolitan Readiness Test
   (Listening, alphabet, and word meaning subtests)

4. Activity Inventory Sheet
   (part III)

5. Clymer-Barrett
   (Beginning and Ending sounds subtests)

6. Three dimensional auditory discrimination test

7. Ginn Pre-Reading Test
   (auditory readiness subtest)

8. Gates-MacGinitie Readiness
   (subtests II - Auditory Discrimination, IV Following Directions, and V Letter Recognition)

D. COGNITIVE - Including associative and expressive language
   ACADEMIC - Including symbolic knowledge.

1. Sprigle
   (size relations, reasoning, information, analogies, vocabulary, and spatial relations subtests)

2. Behavior Rating Scale
   (ratings 7-9-10)

3. Metropolitan Readiness Test
   (word meaning, listening, alphabet and numbers subtests)

4. Activity Inventory Sheet
   (part IV - language, V cognitive)

5. Clymer-Barrett
   (letter recognition)

6. Ginn Pre-Reading Test
   (Listening, Vocabulary, and comprehension subtests)

7. High Challenge Following Directions Test

8. Gates-MacGinitie Readiness
   (subtests I Listening, comprehension, IV Following Directions)

E. AFFECT

1. Behavior Rating Schedule
   (ratings 11-20)

Suggested Sequence for Level I Screening Diagnosis by the Classroom Teacher:

1. The Sprigle Reading Test will be administered to all children in the Fall during their kindergarten year. Using the test breakdown, the kindergarten teacher can begin developmental activities for the children showing gaps in growth. This test can be administered by trained volunteer personnel, (in Tulsa, volunteers are trained by the Tulsa County Mental Health Association) psychologists, or classroom teachers.

2. The Metropolitan Readiness Test will be administered to all children in the Spring during kindergarten.

3. The Behavior Rating Scale will be checked for all children during the Spring in kindergarten.

4. The Activity Inventory Sheet will be checked for all first grade children during the first two weeks of school before formal instruction begins, (also during these two weeks the Metropolitan will be administered to all children who have not taken it previously).

5. Children with a low score on any subtest of the Metropolitan should be given the Clymer-Barrett, and it is here that tentative programs can be started using the test breakdown included in this section.

6. A motor problem is suggested in children with low ratings on numbers 1-2-8-21 on the Behavior Rating Scale or who are consistently unable to do the activities in part I of the Activity Inventory Sheet. They should be given the Gross Motor Observation Scale. If a problem is apparent in this area the child will proceed to Level II of diagnosis in the motor area.

7. A visual problem is suggested in children with low ratings on numbers 3-4 on the Behavior Rating Scale or with low copying and matching scores on the Metropolitan or with a consistent inability to do the activities on Section II of the Activity Inventory Sheet. These children should be given the Winter Haven Perceptual Copy Forms Test and the High Challenge Pre-writing Test. If a problem is apparent in this area the child will proceed to Level II of diagnosis in the motor area.

8. An auditory problem is suggested in children with low ratings in numbers 5-6 on the Behavior Rating Scale or with low listening and word meaning scores on the Metropolitan or with a consistent inability to do the activities in Section III of the Activity Inventory Sheet. These children should be given the Three Dimensional Auditory Discrimination Test. Also particular attention should be paid to the informal inventory listed in the Auditory section.

9. A problem in the general area of language, cognition, or academic exposure is suggested in children with low ratings on numbers 7-9-10 on the Behavior Rating Scale or who are consistently unable to do the activities in part IV Language or part V Cognitive on the Activity Inventory Sheet or who have low scores on the Following Directions, Alphabet, or Numbers subtests on the Metropolitan Readiness Test. These children should be given the High Challenge Following Directions Test which pinpoints a lag in vocabulary understanding. After this the child proceeds to Level II of testing.

10. A problem in the affect area is suggested in children with low ratings on numbers 11 through 20 on the Behavior Rating Scale. The classroom teacher can also notice any unusual patterns on the Draw-A-Man graded by the Vane Kingergarten Test. Mention these only to the Educational Consultant, Administrator, or Psychologist and never to the parent. They can though, be a clue for further evaluation.

LEVEL II
Screening Materials
The Educational Consultant

A. MOTOR (When a problem is suggested by Level I).

1. Meeting Street School Test
   (Motor Patterning subtest)

2. Valett Psychoeducational Inventory of Basic Learning Abilities
   (gross motor inventory and sensory motor integration inventory - 15 - 16 - 17 - 19 - 20 -21)

B. VISUAL

1. Vane Kindergarten Test
   (Perceptual motor subtest)

2. Meeting Street School Test
   (Visual Perceptual subtest)

3. Valett Psychoeducational Inventory
   (Perceptual motor skills inventory 27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36)

4. I.T.P.A.
   (Visual reception, visual sequential memory, and visual closure subtests)

5. Beery Visual-motor Integration Test

6. Frostig Test of Visual Perception

C. AUDITORY

1. Wepman Auditory Discrimination Test

2. Valett Psychoeducational Inventory

3. I.T.P.A.
   (Auditory reception, auditory sequential memory, auditory closure, and sound blending subtests)

D. COGNITIVE AND ACADEMIC

1. Vane Kindergarten Test
   (Vocabulary and Draw-A-Man subtests)

2. Meeting Street School Test
   (Language subtest)

3. Valett Psychoeducational Inventory
   (Language development inventory 37 - 38 - 39 and Conceptual skills 44 - 45 - 47 - 48 - 49)

4. I.T.P.A.
   (Auditory association, verbal expression, visual association, and grammatic closure)

5. Peabody Picture Vocabulary Test

E. AFFECT

1. Valett Psychoeducational Inventory
   (social skills subtest)

At this point, the teacher, with the aid of the Educational Consultant when needed, should set up a specific program looking carefully at the place learning is breaking down. Specific kinds of mistakes should be looked for on all material available to note any patterns which may be evident such as:

1. Reversals in space (visual-motor) - b/d, need/been.

2. Reversal in time (auditory) calling back - ship/fish, zebra/babies.

3. Perseverating - (all answers in one row).

4. Midline problems (breaking down at the middle of the page).

5. Inability to find left or right - top or bottom.

6. A breakdown at the end of test or subtest (could suggest fatigue, frustration, or defeat instead of ability lag).

7. Visual discrimination mistakes - hat/hot, red/rod.

8. Difficulty in completing assignments or subtests (inability to close).

9. Firmness of crayon or pencil lines.

10. Where do breakdowns occur - (Is a new type of knowledge being asked for)?

11. The way in which shapes are formed.

12. Skips lines - even with marker.

13. Poor spacing.

14. Unable to stay on lines.

15. Misaligns numbers - horizontal or vertical.

All of these non-standardized notes can help in setting up the program. They can reinforce the findings of the standardized scores or perhaps give a clue as to reasons why the scores are what they are.

The specific program which is set up for the child on the basis of available information at this point should be started. Information contained in the sections on developmental techniques should be used to set up these programs. (See page 51 for a sample program).

LEVEL III

Monitoring by Psychological Specialist

The child's program will be checked. His behavior will be checked to determine if the psychologist can see some adjustment which can be made before further testing. It will also include monitoring by the resource teacher as the child is on the playground, cafeteria, and classroom.

LEVEL IV

Screening Materials
Psychological Specialist

The specialist comes back. A test battery is chosen on the basis of earlier evaluation and monitoring by teacher, consultant and specialist. Depending upon the area developmental gap which is suggested, the specialist will give one or more of the following tests:

Wechsler Intelligence Scale for Children
Complete ITPA
Bender-Gestalt Visual-Motor Test
Wepman Auditory Discrimination Test
Draw-A-Person
Other tests as needed

As a consequence of the psychoeducational evaluation, a psychologist should be able to determine -

1. The child's functioning ability level and the differential nature of the abilities.

2. The level at which the child is able to process information -
    a. discriminatory
    b. habitual or automatic
    d. integrative or problem solving

3. The child's receptive and expressive limitations.

4. The child's emotional and social adjustment.

5. The placement needs.

School______________________________Pupil's Name__________________________

Teacher______________________________Date____________________

BEHAVIOR RATING SCHEDULE

Instructions:

Rate the child on each of the following bipolar scales by checking in the appropriate space one of the short lines on the continuum. The teacher should use her experience with kindergarten age children as the norm and rate each child according to his current stage of development. The center line on each continuum represents the average rate of development for a kindergarten child on that trait. Thus, if the child displays average development on the item, the check mark should be placed above the middle line. As the scales are bipolar, there are three degrees of accelerated development and three degrees of retarded development for each item.

MOTOR:

1. Large muscle coordination (ability to run, throw and general sense of balance).

   Excellent____:_____:_____:_____:_____:_____:_____: Poor

2. Small muscle coordination (cutting, freehand drawing, manipulating small objects).

   Excellent_____:_____:_____:_____:_____:_____:_____: Poor

VISUAL:

3. Form perception (ability to visually discriminate different shapes).

   Excellent_____:_____:_____:_____:_____:_____:_____: Poor

4. Eye-hand coordination (reproducing designs, coloring within lines, copying letters).

   Excellent _____:_____:_____:_____:_____:_____:_____: Poor

AUDITORY:

5. Sound perception (ability to discriminate different sounds).

   Excellent_____:_____:_____:_____:_____:_____:_____: Poor

6. Speech development (articulation, ability to speak distinctly; to pronounce clearly words that sound somewhat alike).

   Excellent _____:_____:_____:_____:_____:_____:_____: Poor

LANGUAGE:

7. Vocabulary development (meaning of words, ability to put words together to express an idea).

Excellent_____:_____:_____:_____:_____:_____:_____: Poor

MOTOR:

8. Motor activity (ability to control level of physical activity)
Superior
Control _____:_____:_____:_____:_____:_____:_____: Hyperactive

AFFECT:

9. Attention Span (Ability to attend to instruction, concentrate on, organize and complete a task).

Sustained_____:_____:_____:_____:_____:_____:_____: Fleeting

10. Memory development (ability to remember general procedures from day to day,sequence of events in a story, a series of instructions).

Excellent _____:_____:_____:_____:_____:_____:_____: Poor

11. Flexibility of behavior (ability to move from task to task with relative ease contrasted with rigidity and perseveration).

Flexible _____:_____:_____:_____:_____:_____:_____: Rigid

12. Impulsivity (How often does he act out his impulses contracted with a consideration of the consequences of the behavior)?

Rarely _____:_____:_____:_____:_____:_____:_____: Always

13. Negativism (What is child's reaction when asked to attempt a task)?

Positive _____:_____:_____:_____:_____:_____:_____: Negative

14. Frustration tolerance (What is the child's ability to cope with trying situations, to take defeat, to share, to take criticism)?

High ______:______:______:______:______:______:______: Low

15. Relates to adults (ability of child to communicate confidently with adults)

Excellent_____:_____:_____:_____:_____:_____:_____: Poor

16. Participation in group activities (acceptance by peers and ability to cooperate with others).

Excellent _____:_____:_____:_____:_____:_____:_____: Poor

17. Sex role identification (degree to which the child has attained approved masculine or feminine behavior).

Appropriate _____:_____:_____:_____:_____:_____:_____: Inappropriate

18. Somatic complaints (conplaints of illness or bodily discomforts).

Few ______:______:______:______:______:______:______: Many

19. Confidence (display of confidence when approaching a new task)

Superior _____:_____:_____:_____:_____:_____:_____: Needs Reassurance

20. Interest in school activities (high motivation versus withdrawal, daydreaming, and distractibility).

High ______:______:______:______:______:______:______: Low

MOTOR:

21. Left-Right Dominance (Consistent use of right or left hand and consistent use of same foot as hand).

Complete
Dominance ______:______:______:______:______:______:______: No Dominance

Activity Inventory Sheet

I. MOTOR SKILLS
Fine Motor Control
Eye Motor Control

	AGE																			
Grasps and releases on target																				
Uses Thumb and finger to pick up small objects	1																			
Transfers object from hand/hand	2																			
Turns pages of book singly	2																			
Builds block tower of (6) (8)	2 2½																			
Strings beads (4 in 2 min.)	3																			
Builds block bridge (copy)	3																			
Cuts with scissors	3																			
Places forms in form board	3																			
Copies circle drawing	3																			
Buttons coat	3-4																			
Folds paper (3 creases)	4																			
Uses pencil with cont.	4-5																			
Prints simple letters	5																			
Tie a shoe	5-6																			

Activity Inventory Sheet

I. MOTOR SKILLS
Gross Motor Skills

	AGE																						
Runs Easily	2																						
Steps over obstacles easily	2																						
Kicks large ball	2																						
Jumps - both feet in place	2½																						
Rides tricycle using pedals	3																						
Walks down stairs (Alter. feet)	3-4																						
Balances on 1 foot 4 Sec. 8 Sec.	4 5																						
Throws overhand	4																						
Walks Balance Beam 1 Step off 0 Steps off	4 5																						
Gallops	4																						
Hopping on one foot	4½																						
Skips - alternate feet	5																						
Cross pattern walking	4																						
Can stop quickly when running	5																						

Activity Inventory Sheet

I. MOTOR SKILLS
Awareness of Self
Development of Independence

	AGE																	
Points to own: Eyes, nose, hands, ears, arms, legs, head, hair.	2½																	
Steps over Obstacles	2																	
Avoids Simple Hazards	3																	
Ducks under Obstacles	3																	
Washes and Dries Own Hands	3-4																	
Takes Care of Own Toilet Needs	4-5																	
Knows Front/Back of Clothing	4																	
Can Dress Self/Gives Full Name	3½																	
Names Body Parts: eyes, nose, hands, feet, ears, arms, legs, head, hair.	3½																	
Parallel Play Only	2																	
Initiates Own Activities	3																	
Understand Taking Turns	3																	
Associative Play	3½																	
Cooperative Play	3-4																	
Competitive Play	4-5																	
Knows Left from Right	5																	

Activity Inventory Sheet

II. VISUAL SKILLS

	AGE																	
Points to object named in book	1½																	
Names Action Shown in Picture	3																	
Fits Forms into Form Board	3																	
Names 3 Objects in Picture	3																	
Visually Matches 6 of 10 Basic Geometric Outlines	3½																	
Visually Matches 8 of 10 Basic Geometric Outlines	4																	
Sorts 20 Buttons of same Shape According to 2 Colors	3½																	
Points to Picture (as animals) Matching One Shown	3½																	
Points to a Missing Part of Familiar Items	4																	
Recognizes Same/or Different for 2 Simple Pictures	4½																	
Responds to Picture with Description	5																	
Names Colors	5																	
Assembles Simple Picture Puzzles (3-6 pieces)	5																	
Finishes Simple Incomplete Designs	5																	
Copies Simple Dot-to-Dot Patterns	5-6																	
Visual Discrimination Sequence: external form, relative size, or number of items.																		

Activity Inventory Sheet

III. AUDITORY SKILLS

Responds (attention) to Gross Sounds																			
Detects Source of Sounds																			
Follows Rhythmic Pattern with Clapping (Hands)																			
Follows Single Verbal Direction																			
Discriminates Loud and Soft Sounds																			
Discriminates High and Low Sounds																			
Follows Rhythmic Pattern Marching, etc.																			
Follows Two-Part Directions																			
Discriminates Common Sounds or Patterns																			
Follows a Series of Three Directions																			
Identifies Environmental Sounds																			
Responds to Certain Key Words in Story																			
Supplies Words Omitted from Familiar Story																			
Gives Attention																			

Activity Inventory Sheet

IV. LANGUAGE DEVELOPMENT

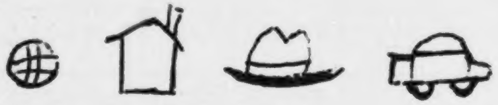
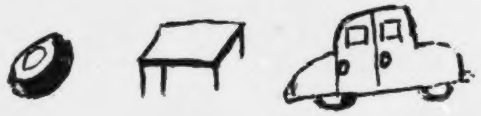
	AGE																		
Plurals	3																		
First and Last Name	3½																		
Understands Cold, Tired, Hungry	4																		
Comprehends Three Prepositions	4½																		
Recognizes Three Colors	5																		
Opposite Analogies, 2 out of 3	5½																		
Defines Words	6																		
Composition of Materials	6½																		

Activity Inventory Sheet

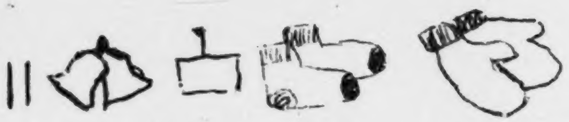
V. COGNITIVE

	AGE																				
Understands Prepositions (In, Under)	2½																				
Names Action Word for Agent	3																				
Labels Own Drawing	3																				
Understands "bigger-longer"	3½																				
Understands "heavier-more"	4																				
Defines in Descriptive Terms	4-5																				
Completes Opposite Analogies	4																				
Points to "prettier"	4½																				
Asks Meaning of Words	5																				
Tells if Morning or Afternoon	5																				
Names Pennies, Nickel, Dime	5																				
Defines Object by Category	5½																				
Names Circle, Square Cross	5½																				
Indicates Day of Week	6																				
Tells How Things Are "different"	6																				

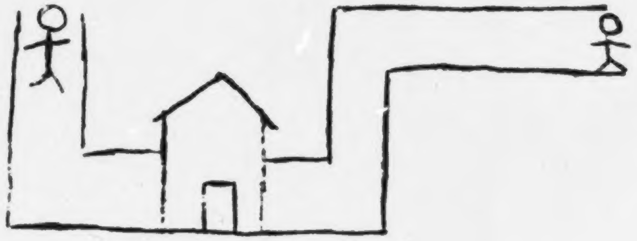
BREAKDOWN OF SPRIGLE READINESS TEST
(Can be used to set up programs during kindergarten)

AREA TESTED AND TYPE OF QUESTION	ABILITY OR SKILL TESTED	DEVELOPMENTAL TECHNIQUES OR PROCEDURES
VERBAL COMPREHENSION:		
"Put your block on the one made of wood." 	Following spoken directions in the form of sentences.	Sequenced motor activities (constant verbal description) Peabody Language Kit (Primary Level) Ginn Language Kit Training Exercises for Motor Encoding List of verbal concepts devised by "High Challeng staff, which can be emphasized during class and handed to parents. Training exercises for Auditory Decoding ("High Challenge" handout sheet) Auditory Descrimination in Depth (for shifting attention and discrimination) In form of game begin with one direction and build to five directions which the child follows in order. Present two similar pictures to child, describe one and ask child to identify it.
SIZE RELATIONS:		
"Which one of these is really the largest one?" 	Recognizing the real size relationship between pictured objects.	Sequenced motor activities (stressing form box activities) Peabody Language Kit Consistent notice of classroom objects and their size relationships. Ruler and yardstick measuring of children and objects for comparison. Cuisenaire Rods Houghton Mifflin Kindergarten number book (especially section 1)

SIZE RELATIONS: (Cont'd)		Try Tasks (especially 1) Exercises playing with concept of largest and smallest (which is largest an elephant's ear or a mouse's ear)? Didactic materials from DLM
VISUAL DISCRIMINATION: "Put your block on the one that is not the same as the others." | □ + + □	To visually discriminate and perceive differences and likenesses of form.	Sequenced motor activities (Pathway kit and balance beam.) Didactic materials from Developmental Learning Materials (sequencing by "High Challenge" staff). Sorting diverse objects Parkinson Visual Readiness Book Fitzhugh 1. Shape completion 2. Visual sequencing 3. Matching Frostig Materials (all visual perceptual areas) Dubnoff Materials Pattern Board and Visual Perceptual Ditto Materials 1. Milliken 2. Continental Classification 1. In Classroom 2. Magazines 3. Catalogues Exercises for Training in Visual Decoding DLM Materials (Puzzles and Language Expressive cards). Add Tactile sense and kinesthetic to visual act. Ruth Cheeves Materials (Puzzles and others - Association Cards - Form Cards).

REASONING:		
"Which one of these goes with the picture of the feet?" 	Classification according to function. Ability to understand relationships.	Sequenced motor activities (taking each other through) Peabody Language Kit (especially body and clothing functions) Parkinson Readiness Book - Concepts DLM - (Visual Association Cards) Perceptual Constancy Cards (letters) Cuisenaire Rods Try Tasks Draw-a-House with verbal descriptions shared. Draw-a-Man with verbal descriptions shared. Questions designed for an understanding of the use of classroom objects and the objects described in unit work. (Why do we need chalk in our classroom)?
UNDERSTANDING OF NUMBERS:		
"Count me eight out loud so I can hear, just eight." (Child uses blocks for counting)	Counting objects ending at a specified number.	Sequenced motor activities (attention to numbers) (Number line activities) Dot-to-Dot pictures Peabody Language Kit (number section) Numeral pegboards Developmental Learning counting picture cards Pegs and square pegboards Counting men Large dominoes used with teacher in game Beads and strings and sequence sheets Blocks and sequence sheets Calendars Child manipulative clocks Ruth Cheeves Math materials Distar Math Readiness book Discontinuous materials to sort for sets Rulers and yardsticks for measuring

UNDERSTANDING NUMBERS: (Cont'd)		Number line for floor Sandpaper numerals Sand and clay trays Wooden numeral and set puzzles Developmental Learning Materals letter constancy cards for sets of a's, b's, etc. Counting frames Buzzer Board for numeral response The child's own body for sets of 2, 5, 1, 10 - also one to one matching gloves to hands - shoes to feet. DLM Didactic Learning Materials
INFORMATION: "What does mommy cook on?"	The amount and type of information within the child's awareness.	Sequenced motor activities (verbalization of body relationships) Peabody Language Kit Unit work planned to cover areas necessary for reading readiness - 1. Home 2. School 3. Shopping Center 4. Movies 5. T.V. 6. Circus 7. Zoo Sesame Street Try Task (sequenced information in form of experience stories). Short field trips around school followed by experience stories. Consistent science lessons covering the world of plants, animals - the earth, rocks, water, weather, and mention of the properties of objects mentioning - 1. Size 2. Color 3. Shape 4. Weight 5. Texture Daily calendar for exposure to weather words Daily information and body concept reinforcement, dressing a child for the weather.

ANALOGIES:		
"We sit on a chair. We sleep on a _______."	Recognition of the correct relationship in one specific instance and the ability to apply this relationship to another instance.	Sequenced motor activities (body relationships) List of analogies to use with children as a game.
VOCABULARY:		
"Can you say one thing about an apple?"	Understands words and is able to define and use them.	Sequenced motor activities (constant verbal description) Peabody Language Kit (sequenced vocabulary enrichment) List of Verbal Concepts ("High Challenge" staff prepared) Consistent unit work At various times during year New Roo. Exposure to one new word each day to go in Roos pouch then taken out and reinforced. (Words chosen to correlate with class work). Pair tree (homonyms written on pears and placed in pairs on the tree - early exposure to word form and homonyms).
SPATIAL RELATIONSHIPS:		
"Which little boy has the shortest way to school?" 	Recognizing the relationships of objects in space.	Sequenced motor activities (tires, form box) - jump board. Frostig material (spatial relationships section) Parkinson Readiness book - spatial List of prepositions and other position words to be emphasized. Colored cube can be used in direction following activities using prepositions. Put the cube over the cup - in the cup - under the cup - under the table, etc. Put the cup under the cube - on the table - under the table, etc.

SPATIAL RELATIONSHIPS: (Cont'd)	Dubnoff field sheets Counting frame for left-right, top-bottom List of words delineating spatial relationships ("High Challenge" staff prepared) DLM Didactic Learning Materials

A SAMPLE PROGRAM FOR A HIGH CHALLENGE CHILD:

TESTS GIVEN:

Vane Kindergarten Test
Metropolitan Readiness Test
Clymer Barrett Prereading Battery
Activity Inventory
Draw-A-Man

DIAGNOSIS:

I. Motor

- A. Body Image
  1. Self concept low
- B. Gross
  1. Can skip, hop, run, walk, gallop, balance on one foot, angels in snow, bounce ball.
  2. Cannot jump, follow verbal directions on obstacle course, understand body movements involving right and left.
- C. Fine
  1. Inadequate eye-hand coordination.
  2. Cannot reproduce a given pattern on peg board.
  3. Lacks ability to close.
  4. Basic perceptual motor skills measured high on Vane.

II. Visual

1. Very low visual memory
2. Cannot reproduce accurately (visual perception accuracy)
3. Inability to perceive and reproduce patterns, words, sentences.
4. Visual perception inaccurate.
5. Recognition of similarities and difference weak.
6. Figure ground problem (cannot select proper stimuli visually and auditory from perceptual field).

III. Auditory

1. Discrimination of beginning sounds low average.
2. The ability to comprehend sentences and phrases weak.
3. Discrimination of ending sounds average

IV. Language

1. Lacks ability to formulate and express thoughts to a given stimulus.
2. Weak in ability to comprehend and retain verbal directions involving spacial concepts. Cannot translate them into body movements in space.
3. General knowledge and information weak (2/6) Vane.
4. Expressive language nil (0/6) Vane.

V. Alphabet Knowledge

1. Does not recognize
   v, e, j, b, d, h (level two)

2. Visual discrimination
   v/w, a/e, j/g

3. Strephosymbolia
   d/[illegible], b/d

VI. Writing

1. Inadequate writing readiness

VII. Math

1. Can recognize number symbols (1-10) cannot reproduce number symbols.
2. Low in quantitative relationships.
3. Basic number concepts average.

VIII. Emotional and Social

Danny is very tense. He has a passive attitude. Emotionally unstable (uncontrolled giggling or a fit of temper). Gives up easily. Reaches a frustration point quickly.

IX. Other

Perservation

SCHOOL PROGRAM

A. Gross Motor

Walking Board activity, obstacle course, chalkboard exercises, eye-hand, body image, Valett

B. Fine Motor

Templates, DLM materials, peg boards, sorting, cutting, block designs, parquetry, stencils, dot-to-dot activities, chalkboard exercises, tweezer and tong pick up, clay, tinker toys.

C. Visual Perception

Frostig, Try Task I, Visual Discrimination Workbook, Milliken Fitzhugh, Follett, Dubnoff-Spatial Pattern Board, DLM Letter constancy cards, Magnetic Alphabet Board.

D. Auditory

"We Work at School" workbook - (Phonics)
Ginn- Building Pre-Reading Skills - (Consonants)
Durrell & Sullivan "Building Word Power" (Rhyming and consonants)
Tapes, records, with earphones
Buzzer Board
Sound Box

E. Reading

Distar - with workbook and take home sheets (SRA)
Open Highways - with workbook and work sheets (Scott-Foresman)
New Scott-Foresman and work sheets

F. Math

Distar - and take home sheets
Continental Press work sheets
Math Workbook - American Book Company
Dot-to-Dot work sheets

G. Writing

Sand tray, Clay tray, sand paper tracing, tracing machine, tracing with overlay and grease pencil, templates, chalkboard exercises, dot-to-dot work sheets, newsprint and crayon, some pencil and lined paper (mostly in workbooks and memo sheets).

H. Language

Peabody Language Kit, Ginn Language Kit, Book of Helpers, Show and Tell, Puppet Shows.

BIBLIOGRAPHY

Bush, Wilma Jo and Marian Taylor Giles. Aids to Psycholinquistic Teaching. Columbus, 1969.

Clymer, Theodore and Thomas C. Barrett. Clymer-Barrett Prereading Battery. Princeton, 1967.

Dunn, Lloyd M. Peabody Picture Vocabulary Test. Circle Pines, 1959.

Frostig, Marianne, D. Welty Lefever and John R. B. Whittlesey. Developmental Test of Visual Perception. Pala Alto, 1963.

Gainsworth, Peter K. and Marian L. Sigueland. Early Identification of Children with Learning Disabilities: The Meeting Street School Screening Test. Providence, 1969.

Gates, Arthur and Walter H. MacGinitie. Gates-MacGinitie Reading Tests. New York, 1965.

Hildreth, Gertrude H., Nellie L. Griffiths, and Mary E. McGauvran. Metropolitan Readiness Tests. New York, 1969.

Kirk, Samuel A., James J. McCarthy, and Winifred D. Kirk. Illinois Test of Psycholinquistic Ability. Urbana, 1968.

McCullough, Constance M. and David H. Russell. Ginn Pre-Reading Test. Boston, 1961.

Roach, Eugene G. and N. C. Kephart. The Purdue Perceptual-Motor Survey. Columbus, 1966.

Sprigle, Herbert A. Sprigle School Readiness Screening Test. Jacksonville, 1965.

Valett, Robert E. A Psychoeducational Inventory of Learning Abilities. Palo Alto, 1968.

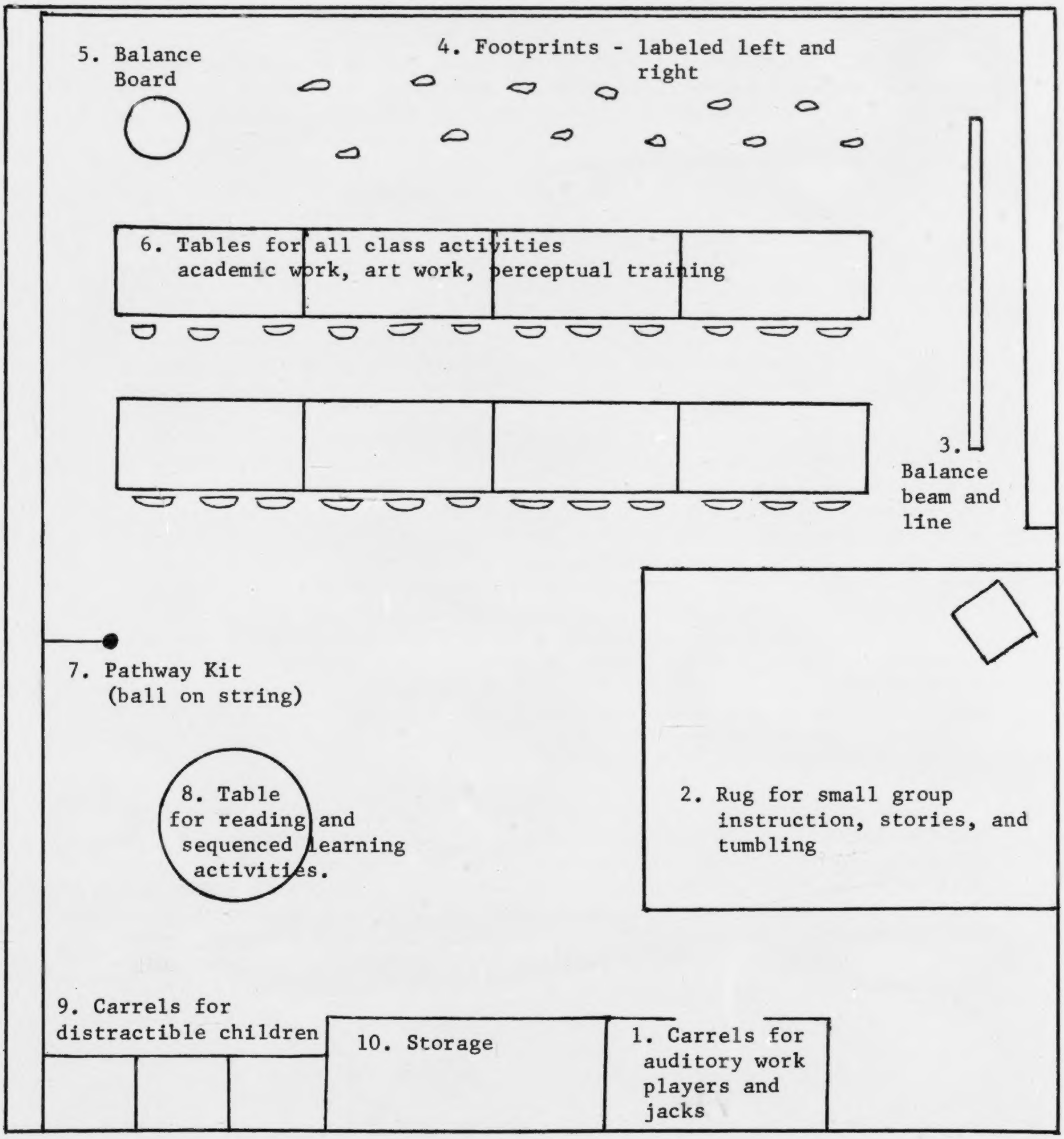
Vane, Julia R. Vane Kindergarten Test. Brandon, 1968.

Winter Haven Lions Club. Perceptual Copy Forms: Teacher's Test Manual. Winter Haven, 1969.

CLASSROOM ORGANIZATION

CLASSROOM ORGANIZATION

A room plan for a heterogenous first grade classroom which makes allowances for the High Challenge child.


5. Balance Board
4. Footprints - labeled left and right
6. Tables for all class activities academic work, art work, perceptual training
3. Balance beam and line
7. Pathway Kit (ball on string)
8. Table for reading and sequenced learning activities.
2. Rug for small group instruction, stories, and tumbling
9. Carrels for distractible children
10. Storage
1. Carrels for auditory work players and jacks

CLASSROOM ORGANIZATION AND MANAGEMENT

A first year classroom can contain materials and room for activities which develop the learning gaps in the High Challenge child. The hypothetical room plan contains areas for auditory perception, visual perception, motor-development, and carrels to remove stimulus for the distractible and can be used for developmental somewhat homogenous classrooms, self-contained heterogenous classroom or a homeroom heterogenous classroom which is part of a semi-departmental setup.

For children with any type of gap which may cause trouble in the academic areas, a personal educational program which takes into account the child's strengths and weaknesses must be written. Suggestions for writing these programs are included in the section on Testing. In order to implement these programs the teacher needs the help of some type of aide, a paraprofessional, a student teacher, a volunteer adult aide, or a student aide. This gives the teacher another responsible person for starting and stopping cassettes, doing quiet group work in Frostig Visual Perceptual Activities, Learning Resources activities and various mini lessons.

The areas set aside for gross motor activity can be used before school and during any period when the other children are away from the classroom. The other areas can be used at any time during the course of the day.

For those children who literally cannot stand the distractions of various activity groups, carrels must be available, either prefabricated or teacher devised. The teacher must set the tone of the classroom, give her students the opportunity and responsibility for maintaining a quiet and attentive attitude despite distractions. This is possible when the teacher knows she is in control of herself and therefore in control of any situation which arises. She should know her students well enough to know when to reward and what kind of reward is necessary, when not to reward - ignore - and when to punish. To be successful she must know something about behavior modification. An excellent delineation is in the book Programming Learning Disabilities by Robert E. Valett. The title of the chapter is "Behavior Modification Through Psycho-educational Programming."

Some children when they enter school are still unable to receive the reinforcement they need by anything which is not tangible. Raisins, sweetened cereal, tokens, and at home even pennies can be used. Acceptable work and behavior in other children can be rewarded in a social way. Praise, pats, smiles can be used. Other children have developed intrinsic reinforcement of behavior. If they feel good inside themselves, they have reinforcement - reward - enough. This is the highest level of reinforcement and should be kept in mind as a goal with other techniques used.

In developing a classroom which makes wise use of behavior modification techniques the following principles of learning:

1. Readiness: A child will learn when he has the interest and the desire to learn and when he recognizes purpose and meaning in the task at hand. With the High Challenge child the teacher is responsible for developing this interest and desire by finding the child's correct place on the sequence of skills. The programming of learning disabilities should begin by determining strengths and interests, and by utilizing both intrinsic and extrinsic motivation.

2. Effect: Pupils should be programmed with educational tasks that are appropriate for their developmental and achievement levels and that have a high probability of success.

3. Cue Discrimination: Learning tasks should be programmed in small structured units, systematically proceeding from material that has been successfully accomplished to the next level of difficulty. Be sure the child has recognized the new material to be learned.

4. Immediate Reinforcement: Upon successful accomplishment of new learning tasks children should be rewarded with praise and extrinsic symbols. If necessary, primary rewards, such as food and tokens, should be used.

5. Intermittent Reinforcement: Once the child has learned the task he should continue to be rewarded, but evaluation and reward can now be given upon completion of several tasks or at the end of an assignment period.

6. Social Reinforcement: The school peer group must be recognized as a powerful source of reinforcement for behavior modification. When primary rewards are used with the individual pupil, a related bonus reward should be given to the class as a whole. The class peer group should also be involved in giving special rewards and recognition to individual pupils.

7. Negative Reinforcement: Occasionally, the child should be deprived of privileges or carefully punished for not doing the assigned task. (Negative reinforcement must be used with caution since emotional behavior is easily conditioned in an undesirable way by traumatic association).

8. Drill and Feedback: Repeated success and varied reinforcement experiences should be provided before moving pupils to significantly more difficult material. Children should be involved in evaluating their own performance and in the correction of their mistakes.

9. Transfer and Generalization: The teacher should provide opportunities for skills already learned to be used in varied and related situations. The child should be helped to analyze the new situation and to apply relevant skills.

10. Extinction: Do not reward or pay attention to behavior that you do not want to be learned; remember that inappropriate behavior is inhibited ("unlearned") through fatigue and non-reinforcement.

11. Insight and Understanding: The pupil must be led to understand what is desired or expected in the learning situation and how this new knowledge may be used in problem solving. Hopefully, the child will become aware of the change in his "system of knowledge" and will know how to apply this new insight.

With this list of principles in mind, the teacher continually reinforces the children's behavior in the way which is most meaningful for the individual child. As the teacher rewards she must set up a calm atmosphere for learning. This does not mean no activity. Instead it means all activity is goal directed. If the teacher is calm within herself this calm pervades the classroom and the activity is not distracting to most children. (Remember - the High Challenge child is working in his own little office or carrel).

Every activity in this atmosphere becomes learning. Visitors to the classroom can even be a part of the child's growth. A different child can be chosen each week to be the host or hostess. The children can practice this role by counting the guests, finding a chair for each guest and greeting the guests for the class. If the teacher accepts visitors in a matter-of-fact manner, then the children will do the same.

The day's activities would be much the same as they would be for any first grade classroom. The children would have a period for reading groups, number groups and language activities. Also, the teacher would have to find time using aides and special teaching devices to reach and teach her children with specific developmental gaps using the techniques, programs and materials which are mentioned in the other areas of the handbook.

8:15 - 8:45 - In a developmental classroom the day should begin the minute the children enter the room. Exercises from Frostig, The Continental Press, or Millikin could be explained the night before. The children quietly go to their folder and get the material to work on as they enter the room. An adult must always be waiting, because a homogenous class of children with developmental gaps, needs even more structure than a heterogenous classroom. The developmental classroom should be kept small, ideally twelve children with a teacher and one aide. They are never left without some supervision.

8:45 - 9:00 - When all the children have arrived and are working quietly, the teacher quietly calls them to attention and has their opening exercises, flag salute, song, and calendar work. These are important activities for the High Challenge child to develop sequence of day to day, week to week, and month to month.

9:00 - 10:30 - With the assistance of an aide this block of time is set up for reading, motor work, and quiet seat activities. The schedule would look like this:

9:00 - 9:30	Group I	Motor work
	II	Reading
	III	Quiet seat activities
9:30 - 10:00	Group I	Reading
	II	Quiet seat activities
	III	Motor work
10:00 - 10:30	Group I	Quiet seat activities
	II	Motor work
	III	Reading

10:30 - 10:45 - The children have a supervised cookie break. They eat their cookie, drink some cold water, and go to the bathroom. This is also a time for head resting if the children need it.

10:45 - 11:30 - While one half of the class works in Distar Math the others are doing Try Tasks, Auditory Discrimination in Depth, or other activities which have been assigned to bridge their specific developmental gap. These activities are handled by volunteers from the community, the Junior League, and The Tulsa County Mental Health. They work with the children individually or in small groups. The schedule would look like this:

10:45 - 11:05	Group A	Distar Math
	Group B	Various individual and small group activities
11:05 - 11:30	Group A	Various individual and small group activities
	Group B	Distar Math

11:30 - 12:00 Perceptual work supervised by teacher and aide

12:00 - 12:45 Lunch must be a learning experience for these children, standing quietly, taking turns, talking softly, etc. The teacher or another adult must be waiting at the room when the children return.

12:45 - 1:40 Teacher Planning

12:45 - 1:15 Rest time - must be a quiet time to conserve the children's energy. Drinks and bathroom come during this period also. Two adults should be in the room. The teacher can use this and the next period for planning.

1:15 - 1:40 Primary Peabody Language Kit directed by a volunteer aide, student teacher, or practicum.

1:40 - 2:20 Alternating groups in Distar Reading and quiet seat activities. The schedule would look like this:

1:40 - 2:00 Group A Distar Reading
B Quiet Seat Activities

2:00 - 2:20 Group A Quiet Seat Activities
B Distar Reading

2:20 - 2:30 Bathroom and drink - the children are tired.

2:30 - 3:00 Art, Science, and Music on alternating days.

On Fridays this schedule varies somewhat. Sequenced motor activities are replaced by rhythms. At 11:00 there are planned science and social studies films. At 2:30 there is a popcorn and free reading party.

In self contained first grade rooms a workable plan would include an opening quiet time to start the day. The children with developmental gaps in the gross motor area arrived at school earlier to complete their sequenced gross motor activities before the classroom day begins. When reading begins and the children have their turns at independent seatwork, the teacher will have planned the work to give the best help to the individual child, such as didactic materials for fine motor work, worksheets to keep the visual stimulus at the same level, work at casettes for auditory training, or individual and small group work with an aide. In order to find more time for individualization not only are aides a necessity but rapport between teachers is necessary to allow them to team their efforts. By teaming in reading and numbers the grouping becomes quite subtle and adaptations can be made in materials and teaching programs.

Teaming requires a schedule which must be met and promotes the kind of planning so necessary for premium use of time and teacher. It allows the use of materials such as DISTAR reading, arithmetic, or language, Merrill Linguistics, Peabody Rebus program, or Peabody Language Kits, with small groups of children with specific language problems.

The following is an example of daily schedule in a self-contained room which makes allowances for the High Challenge child:

8:15 - 9:00 - High Challenge children with a motor development gap arrive and move through sequenced gross motor activities individually directed by a trained student aide.

8:45 - 9:00 - Opening period which emphasizes continuity and sequence - consistent notice of day, week, month, year, season - remembering breakfast anticipating lunch.

9:00 - 10:15 - Team teaching in reading - placing all children in a reading program which best suits their needs (number 1 from Reading a Process). Children can leave during this period to do specific activities in a resource room - motor, visual, auditory, academic.

10:15 - 10:30 - Free recess time (those who do not react well to the stimulation remain inside with their teacher or go through playground obstacle course).

10:30 - 11:00 - Team teaching in numbers (hopefully to include an extra team member, volunteer or paraprofesstional, to make the High Challenge math groups smaller to give an opportunity for the programs and activities mentioned in the math section).

11:00 - 11:20 - Directed writing lesson (pre-writing activities for the High Challenge children).

11:20 - 12:00 - Lunch - practice in choice - order - sequence - counting - classification.

12:00 - 12:30 - Recalling the days activities - Peabody Language Kit - (hopefully the non-expressive children are in a group by themselves to encourage more speech from them).

12:30 - 1:30 - Again teaming for reading, matching child to method - with a resource room in use.

1:30 - 2:00 - Directed low-organization, high-activity games.

2:00 - 3:00 - Workshop or Perceptual Training time - individual goal directed activity during this time children work with perceptual materials, unit work, science, creative writing, etc. During the entire school day children with gaps are receiving specialized help from aides.

Schools with a semi-departmental program present problems in reaching the High Challenge child but it is not impossible to do so. Again the entire primary department - first grade art, speech, music, science, library, and physical education teachers must be willing to do their part for the High Challenge child. They must think of themselves as a team in order to make the best use of time, aides and material.

Ideally aides would be trained to conduct the mini lessons, take the children through the sequenced motor activities, keep records on taped activities, direct perceptual activities such as Frostig and Dubnoff. A suggested plan for the day would be as follows:

8:15 - 8:45 - High Challenge children with a motor development gap arrive and move through gross motor activities individually directed by a trained student aide.

8:45 - 9:00 - Opening period which emphasizes continuity and sequence - consistent notice of day, week, month, year, season - remembering breakfast, anticipating lunch.

9:00 - 10:15 - Team teaching in reading - placing all children in a reading program which best suits their needs (number 1 from Reading a Process). Children can leave during this period to do specific activities in a resource room - motor, visual, auditory, academic.

10:15 - 10:30 - Free recess time (those who do not react well to the stimulation remain inside with their teacher or go through playground obstacle course).

10:30 - 11:00 - Team teaching in numbers (hopefully to include an extra team member, volunteer or paraprofessional, to make the High Challenge math groups smaller to give an opportunity for the programs and activities mentioned in the math section).

11:00 - 11:30 - Directed writing lesson (pre-writing activities for the High Challenge children).

12:15 - 3:00 - During the entire afternoon while the children are traveling from subject to subject, a volunteer aide or paraprofessional can be with the class of first graders to help with the developmental lessons in the different subjects and to help the teachers maintain quiet and order. This adult can also help the children talk through this half of their day to reinforce the time sequence. They can remember the class periods in order and anticipate them in order.

This section of time is broken into four forty minute periods. Physical Education and Library (a quiet reading time) occupy a full forty minute period every day of the week. Music, speech, science, and art alternate the forty minute periods and therefore the children receive only half time for these subjects. In order to effectively reinforce the teaching of the children's homeroom teacher, each of the subject matter teachers must consider themselves teachers of reading, writing, mathematics, and language as well as science, art, music, etc.

12:15 - 12:55 - During physical education the High Challenge children can again go through sequenced or specific motor activities with the help of an aide. The aide will know to reinforce sequence, numerals, following directions, left to right progression, etc. which are suggested in motor section of this book.

The physical education teacher will also reinforce language and number skills during her period with the children - left to right on the balance beam, sets of boys and girls for relay races, running 10, 15, or 20 yards, 30 children in the class - 2 teams, 15 on each team.

12:55 - 1:35 - During library the aide takes the High Challenge children for part of the period to an office set aside for quiet pre-reading activities - placing picture stories in sequence, classifying pictures, pantomiming actions to match objects, Frostig visual perceptual exercises, Dubnoff program, etc.

The library teacher can also emphasize the homeroom skills in particular comprehension and sequence in reading. For example she can tell stories and then ask children to tell the stories back, taking turns remembering the order of the occurences.

1:35 - 2:15 - On alternate days, music or speech.

In music the aide can take the High Challenge children for part of the period to the resource room for development lessons in the auditory area. These can be lessons in A.D.D. the DLM auditory perception series, mini-lessons, etc.

The music teacher is also reinforcing homeroom subjects especially reading concepts such as left to right procession, thinking in symbols, and the rhythm necessary for both math and reading, etc.

1:35 - 2:15 (Alternate) - In speech the teacher with the help of an aide can use the Peabody Language Development Kit. Dividing the room into two groups of children, those with high expressive ability and those with low expressive ability, the sequenced lessons can be taught. The teacher and aide can alternate groups in order to be certain the teacher is able to monitor all the children. Other language activities are the large cardboard puppets, The Ginn Language Kit, etc.

2:15 - 3:00 - For alternating 4½ week periods art or science.

In art, an aide can take the High Challenge children for work in fine muscle coordination, templates, tracing paper and patterns, large chalkboard work, pegboards and patterns, parquetry and patterns, etc.

With all the children the correlation of art with reading, writing and language can be important. Fine muscle control is developed for writing as the child draws, paints, colors. As the child produces a drawing he is learning to think of a symbol standing for an object. As the child describes his pictorial representation he is developing the language to deal with his world. Art for the High Challenge child would only need some specific structured activities which would not perhaps be necessary for other children, for example the templates and tracing.

2:15 - 3:00 (Alternate) - In science the teacher has the best opportunity of all to help the High Challenge child find his place in his world, as he sorts, as he classifies, as he sees the earth, the sun and the moon in relation to a first grader in Tulsa, Oklahoma, he is finding his position in space. When new objects are presented, the five senses should be brought into play, the smell, the taste, the touch, the sound, the sight, whenever possible. He should constantly be encouraged to describe the world as he sees it.

Specific activities for the High Challenge child would include sorting according to size, texture, color, shape, weight, etc. Materials can be purchased which are graded by color, temperature, weight, smell, and size, with extremely subtle differences. An aide can work with a child in these specific activities.

The following is a list of materials which can be available to the classroom teacher either in her own room or in a nearby resource room. They overlap as to the developmental area they cover and are included in the area which they cover most comprehensively. This is not complete, but instead lists materials which might not be in a traditional first grade room.

Gross Motor:

- Balance beam
- Used Tires
- Mats
- Hula Hoops
- Pathway Kit (ball on string)
- Balance Board
- Left and Right Footprints
- Jump board
- Form Box

Fine Motor:

Visual Motor:

- Lacing Cards
- Parquetry and Patterns (large and small)
- Templates (shapes)
- Stencils (shapes, animal, farm, seasonal, etc.)
- Puzzles (shapes, animals, multi-ethnic, jobs, etc.)
- Pegboards and patterns
- Colored cubes and patterns
- Tracing paper
- Clipboards and designs
- Crayons
- Colored marking pens
- Beads, strings, and patterns
- Groovy Letters and numerals
- Continental and Milliken spirit masters

Visual

- Frostig Materials
- Dubnoff Materials
- Sequential Picture (aids)
- Motor Expressive (aids)
- Same or different cards
- Word Picture dominoes
- Visual Memory Cards
- Visual Readiness books
- Fairbanks Robinson Materials
- Erie Program
- Association Picture Cards
- Kleecos - chalkboard, books

Auditory

- Auditory Discrimination in Depth (Teaching Resources)
- Auditory Perception Program (Developmental Learning Materials)
- Buzzer Board and Visual Patterns
- Rhyming puzzles
- Auditory readiness books
- Auditory games
- Rhythm instruments

Haptic

- Sandpaper (fine)
- Materials of many textures
- Clay
- Clay trays
- Sand trays
- Yarn

Affect

- American Guidance Service Kit "Developing Understanding of Self and Others"

Reading
Language

- Merrill Linguistics (readers, workbooks, guides)
- Peabody Rebus Reading (readers, workbooks, guides)
- Other specialized programs (For example phonics approaches for the auditory learner, whole word approaches for the visual learner, or Fernald materials for the tactile, kinesthetic learner).
- Peabody Language Development Kit
- Letter Constancy Cards
- Small chalkboards

Numbers

- Kindergarten workbooks from several series
- Sequence chart
- Nuffield Mathematics Materials

Science

- Sorting materials - objects which can be classified by their properties.
- Prefabricated materials for classification by properties.

BIBLIOGRAPHY

Valett, Robert E. The Remediation of Learning Disabilities. Palo Alto, 1967

MOTOR DEVELOPMENT

MOTOR DEVELOPMENT

Research in child development has established the sequential development of the child as being a step-by-step process. The order of the stages is considered more important than when each occurs. Even though individuals may differ in their rate of development, the order of motor pattern developments is usually consistent.

Piaget states that intellectual growth takes place in a succession of stages in all children, the sensory-motor stage (0-2), the symbols - representational stage (up to 5 years), growth into the concrete operational stage (5-7) growth within the concrete operational stage (7-11 yrs.) and lastly the growth into the formal operational stage(11+ yrs.).

It is now fairly well accepted theory that if a child skips a stage of development he is apt to have difficulty in the motor, visual or perceptual areas. There appears to be a clear relationship existing between motor difficulties and learning difficulties for children that manifest motor developmental lags.

Dunsing states, "We hold that the most basic components of readiness development is motor. Perceptual information is crucial but it must be organized in relation to the child's early exploration activity, and such organization will occur only insofar as the child's motor exploration is consistent and organized. The child's earliest motor explorations are organized in terms of his relationship to gravity and consist of patterns of posture and balance movements which tend to orient him to earth's surface and to the object world. As his movement activities become more highly organized, he is increasingly able to structure his perceptual input so as to make sense of it. We believe that cognitive organization is no more sound than the perceptual organization which underlies it. The only way a child can verify his conceptualizations is through a well-established perceptual structure which is organized, in turn, upon a solid motor base."

It is generally accepted that the base of all learning is built on very basic body movements. He is not born with this motor base. The first learnings of the child are motor learnings. From the basic early sensations and reflect body movements the child develops a motor base that is essential to higher levels of learning. From this basic motor foundation the system expands. A child develops this motor base as he learns to use his body motorically. As Jersild points out motor activities play a major role in intellectual development.

No two children will develop this motoric system the same. It is only as he moves through basic motor stages that require him to perform will he be able to learn the necessary basic motor patterns for normal development.

Motor patterns are necessary for information gathering at the base of the child's development.

82

Many children come to school unable to adequately use their body motorically. Any child who manifests motor deficiencies should be placed in situations that require him to develop these motoric lags. He often must begin at the most gross and move to the finest. Children with motor problems should be given activities that will help them discover, differentiate and sort out their own motor problems. The teacher should always keep in mind that there is no prescribed way for a child to go about developing this motoric system, since each child is unique, there are many ways for him to go about developing his own motoric system. For these children many varied and carefully sequenced activities should be provided. Certainly the earlier a child with motor lag begins a corrective program the better.

It is suggested that this motoric training is best accomplished through play activities. Through play the child should be given the opportunity to experiment with his body and learn to use it adequately in many situations required of him.

We often find little children that are entering school manifest faulty spatial concepts, which are caused from a child's poor body coordination and poor body image. This type of developmental lag is apt to cause a child to consistently reverse letters such as "u" for "n", "b" for "d", "b" for "p", in writing, or words "nap" for "pan", "saw" for "was" in reading. Although this kind of problem would be considered a visual perceptual problem, motorically the relationship can be explained by saying that what the child sees has a definite position relative to his position. In the developmental sequence the child first learns to maintain balance, from balance he develops the spatial concept of up, down, under, over, behind, in front of, etc. From this vertical reference this child learns to differentiate the sides of his body (left from right) or what we call laterality. From these basic motor concepts the child is able to develop an internalized awareness of direction into space. This foundation of laterality-directionality serves as the basis for the higher learning skills.

Most children move through these basic motor pattern developments in a regular sequential manner. Some children with faulty motor lags are able to compensate very well, while others with motor deficiencies should be given very concentrated psycho-motor training to fill in these most neglected developmental gaps.

The classroom teacher must understand these basic principles. To merely give the child more practice in writing to remediate a spatial problem will either frustrate the child or force the child into a "splintered skill." This means the child, because of demands of the teacher for certain types of performance has given up trying to differentiate his motor patterns, and developing the ability to generalize motorically, and instead he has learned a specific skill to please the teacher. An example of this would be that the child learns the difference between "saw" and "was" when reading, but still confuses "been" for "need", "nap" for "pan", "but" for "tub."

The teacher must always strive for generalization of a skill, where a child can adequately correctly deal with a variety of related activities.

Certainly basic to all correct motor responses is the ability to handle the body as the situation requires without hesitation in beginning, switching, or stopping. Motor activity that is hesitant and marked by a lack of confidence in performing expected motor tasks is often an indication of faulty motor patterning.

It is not intended to indicate that by providing the opportunity for motor development this will solve all the child's learning problems. As educators we need to recognize that motor development plays a vital part in the total picture of the young child's educational experiences.

Some motor problems which a teacher might look for informally:

1. Overactive
2. Fidgets
3. Disorganized
4. Unusually slow
5. Clumsy
6. Eyes and hands do not function together
7. Fine muscle difficulty
8. Touches everything and everyone
9. Unpredictable
10. Unmanageable
11. Distractible
12. Generally poor coordination
13. Hand turned back with thumbs tucked in
14. Hand turned backward when crawling

The hypothetical room, shown on the next page, contains a great number of possibilities for sequenced motor activities. The classroom teacher might not have this amount of room available, if not, she should choose as many and as varied activities as possible within the limits of space. A room plan in the section on Classroom Management demonstrates ways in which a regular classroom can contain some activities especially useful for visual-motor coordination and for laterality.

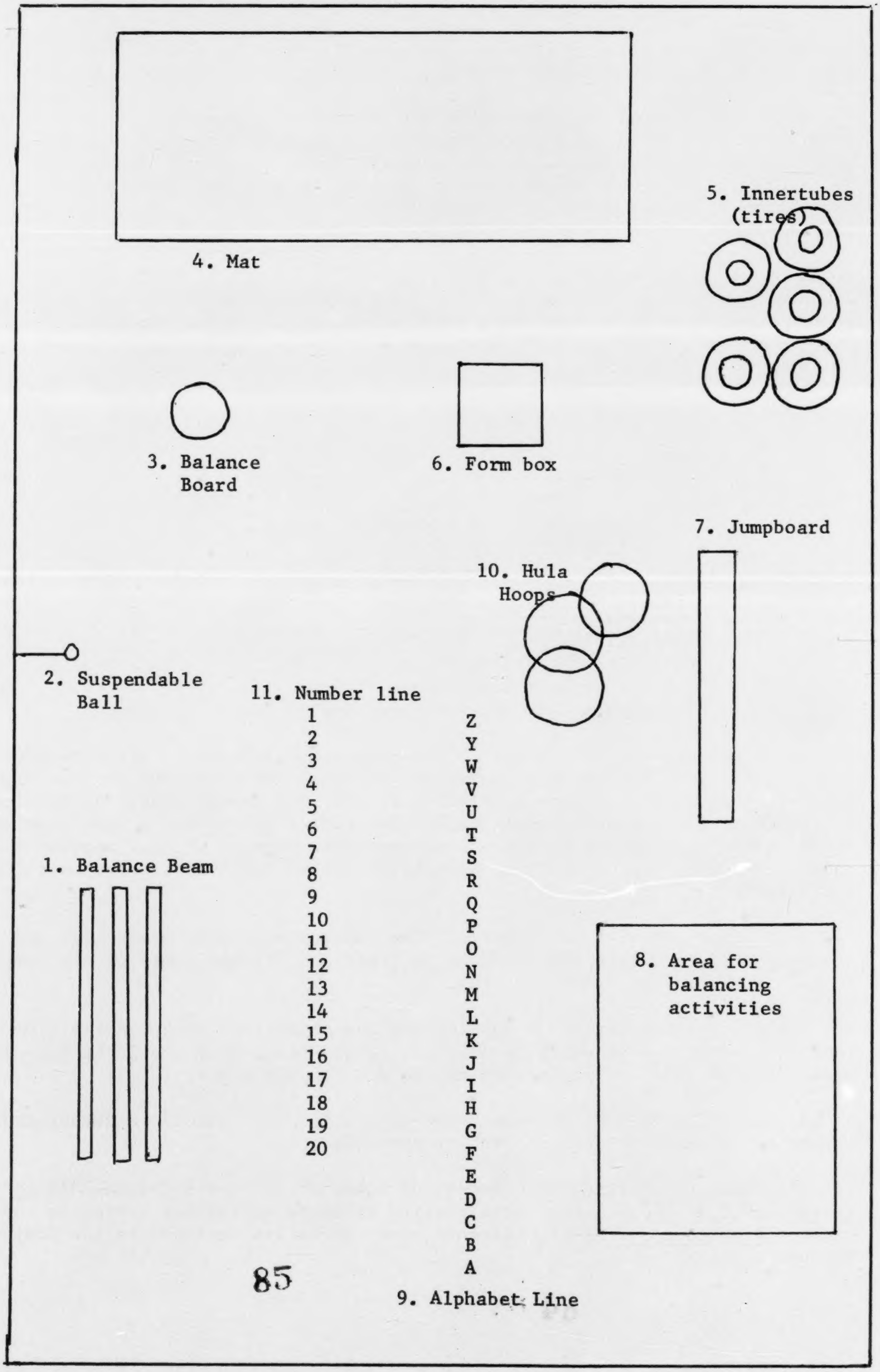
Each motor activity is numbered. The numbers should be low enough and sturdy enough to enable the children to trace and say the names of the numerals as they move through the activities.

Each of the activities is labeled and the objectives of the activities are included. When the sequence is labeled progression, they should be done in order. Those labeled activities may be done in any order.

As the children move through these activities they should be encouraged to verbalize their actions as much as possible.

The constant shifting of balance and movement increases the child's body schema and body image. The verbalization of these activities increases the child's body concept. (Definition of these words are included in the Body Concept section).

HYPOTHETICAL MOTOR ROOM. USE AS MANY OR FEW OF THE ACTIVITIES AS ARE POSSIBLE.


4. Mat
5. Innertubes (tires)
3. Balance Board
6. Form box
7. Jumpboard
10. Hula Hoops
2. Suspendable Ball
11. Number line
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Z Y W V U T S R Q P O N M L K J I H G F E D C B A
1. Balance Beam
8. Area for balancing activities
9. Alphabet Line

GROUP ACTIVITY ORGANIZATION

It is helpful if an adult volunteer worker can man each station in the sequence. If volunteers are not available, the children themselves can carry on the activities by helping one another. A very important aspect of using children to man the stations is that they must understand that they are doing an important job and that they are expected to be able to do it correctly. Communicate to the children that you know they are able to do the job. Many times children do not perform and do as well as they could and should because no one really expects them to do well. The child is able to sense what adults feel he can do and how valuable and capable they think he is and he will try to live up to what is expected of him.

The sequential activities on the course are important because they teach the child sequence. Learning sequence begins the learning of basic time functions. By going through a sequence that is arranged in an order, the child begins to relate time to space. It takes a certain amount of time to cover a given space, moving at a certain rate. The sequence of time and space should be pointed out to make the children aware of time and space as it applies to the course. The sequence should be varied to help the children learn to adapt to change.

It is important to generalize the activities that the children are learning. The child can look into the world and see if he can find things that are like what he is doing at a particular station. It is good to have the parents carry out some of the activities at home. Parents can help in the generalization process by finding activities that are like what the child is doing in the motor sequence.

1. WALKING BOARD OR LINE ACTIVITIES

Objectives:

1. The child will develop laterality.
2. The child will develop ocular pursuit skills by fixing on a particular point.
3. The child will find his position in space.
4. The child will increase concentration and attention span.
5. The child will develop left-right, up-down, and fore-aft balance.

ACTIVITIES

1. Walk forward across the board. (KEEP THE EYES ON A TARGET). (HEEL-TOE)
2. Walk forward across the board and carry a weight in the left hand.
3. Walk forward across the board and carry a weight in the right hand.
4. Walk forward across the board and change the weight from hand to hand.
5. Walk backward across the board.
6. Walk backward across the board and carry a weight in the left hand.
7. Invent your own way to cross the board.
8. Walk backward across the board and carry a weight in the right hand.
9. Walk backward across the board and change the weight from hand to hand.
10. Walk forward across the board with an eraser balanced on head.
11. Walk back across the board backward and balance eraser on head.
12. Walk across the board with eraser balanced on head and carry weight in hand.
13. Walk across the board and throw a bean bag at a target on command.
14. Walk across the board and catch a bean bag and throw it back.
15. Walk across the board and bounce a ball.
16. Invent two ways to cross the board that we haven't shown you. (Have the child devise the new ways, but if he can't, the instructor should do it. It is valuable to do your thinking out loud and let the child follow you through the process).

17. Walk sideways across the board and lead with the right foot.

18. Walk sideways across the board and lead with the left foot.

19. Walk sideways across the board and carry a weight in the hands.

20. Walk sideways across the board and change a weight from hand to hand.

21. Walk sideways across the board with an eraser balanced on top of your head and carry a weight in the hands.

22. Walk sideways down the board with a weight in the hands; in the middle of the board turn around and walk backward to the end. Walk forward to the middle of the board turn and lead with the other side.

NOTE: THE ACTIVITY CAN BE USED TO DEVELOP THE ABILITY TO FOLLOW COMMANDS. GIVE THE CHILD A SERIES OF COMMANDS THAT HE CAN FOLLOW AND SEE THAT HE CARRIES THEM OUT. SLOWLY BUT SURELY YOU CAN INCREASE THE SPAN OF THE NUMBER OF COMMANDS THAT HE CAN HANDLE. IF HE HAS TROUBLE WITH HANDLING MORE THAN ONE OR TWO COMMANDS IN A SERIES, TELL HIM TO IMAGINE THAT HE IS GOING THROUGH EACH ACT AS YOU GIVE IT TO HIM. BE SURE TO GIVE THE COMMANDS SLOWLY AND DISTINCTLY.

23. Walk across the board with the arms extended to the sides; then to the front, back, both to one side, then both to the other side.

24. Walk across the board with the arms extended in front; back to opposite sides and then both to one side, then both to the other side.

25. Walk forward with left foot always in front of the right; combine activities covered in items _1_ through _24_.

26. Walk forward with right foot always in front of the left foot; combine activities covered in items _1_ through _24_.

27. Walk backward with right foot always in front of left.

28. Walk backward with left foot always in front of right.

29. Invent five activities not covered in this list.

30. Walk forward and pick up eraser from middle of beam.

31. Walk backward and pick up eraser from center of beam.

32. Walk sideways leading with left side and pick up eraser from center of beam.

33. Walk sideways with right side and pick up eraser from center of beam.

34. Repeat items _30_, _31_, _32_, _33_, but this time pick up the eraser and place it on top of head and continue to end of board.

35. Have partner hold wand 12 inches over center of beam. Walk to center and step over the wand.

36. Repeat items randonly from 1 through 34 using wand. Increase the height of the step necessary to clear the wand. Be sure to tell him if he steps too high.

37. Have child walk across the beam in various ways. Stand at the end of the board with a target. Have the child watch the target as he moves across the beam.

38. Repeat number 37, but have the child keep his eyes on the target as the target is moved. Call to his attention the fact that he loses the target or that his eyes look away.

39. Invent seven ways to cross the board that have not been covered. Emphasize the use of the eyes.

40. Hold wand at height of three feet. Walk forward and pass under the wand.

41. Repeat items randomly from item 1 through 39. Include the task of going under and over the wand. Vary the position of the wand both in height and in position relative to the length of the beam.

42. Walk the beam forward with arms out, palms down, with eraser on the back of each hand.

43. Walk the beam backward with erasers on hands as in item 42.

44. Invent five ways to cross the board using the erasers balanced on the hands.

45. Walk the board in various directions with all of the child's weight being carried on the balls of the feet.

46. Walking on balls of feet, carry various weights across the board and change the position of the weights as the child walks. Be sure the child is looking at something definite when he walks.

47. Invent three new ways to cross the board.

48. Walk to center of board, kneel on one knee, straighten other leg forward until heel is on board and knee is straight. Stand and go to end of board.

49. Have child go to center of board and stand. Go to end of beam where the child will be facing you. Move arms and legs in various positions and have child to do exactly as you do. If his position is not correct, call his attention to the fact.

50. Have child go to center of board. Throw him a bean bag and have him throw it back to you and at a target. Have child move to various positions on board while you stay in one place and have him throw the bean bag to the target and to you.

51. Place a bucket at the end of the beam. Have the child walk away from the bucket. Throw him a bean bag and have him try to throw the bean bag into the bucket without looking at it. Make sure he does not turn around. The object is to have him throw at the target in back of him.

52. Walk backward to middle of beam. Kneel on one knee; straighten other leg forward until heel is on beam and knee is straight. Rise and walk to end of beam.

53. Repeat item 52 but kneel on the other knee and straighten the other leg.

54. Invent four new ways to cross the beam.

55. Hop on right foot the full length of the beam.

56. Hop on the left foot the full length of the beam.

57. Hop on right foot full length of the beam.

58. Hop back and forth on beam, alternating left and right foot.

59. Skip the full length of the beam.

60. Clasp arms in rear and walk across the board.

61. Invent seven different ways to cross the board with arms held fast in various positions about the body.

62. Invent seven different ways to cross the board with one arm held fast; then hold the other arm fast.

63. Walk to the center of the beam, stop, do a left side support, and walk to the end.

64. Balance eraser on head, walk to the center of the board, do a left side support and go on to the end of the board.

65. Walk to the center of the board; stand on the left foot and balance, holding the right leg and two arms in a horizontal position.

66. Repeat number 65 but balance on the right foot.

67. Place eraser at middle of beam; walk beam, left sideways; pick up eraser; place eraser on right side; turn around and walk to the end of the beam.

68. Use the wand, the eraser and the bean bag. Invent seven ways to cross the beam using all three of the items in each activity. Have the body move across the beam in all four directions.

69. Hold the wand at various heights above the beam. Put hands on hips and walk backward and go under the wand.

70. Hold a piece of paper at right angles so it will stand on the beam at the middle. Walk to the paper and bend over and pick it up in your teeth.

71. Invent three activities using the paper.

72. Hop to the center of the beam and turn around; hop backward to the end.

73. Invent two activities using the hop and the wand.

74. Walk to the center of the board. Close the eyes and walk to the end.

KEEP EYES ON FIXATION POINT

75. Walk to the center of the beam. Close the eyes and see how long balance can be maintained with the eyes closed. Record the number of seconds balance is maintained.

76. Walk to the center of the board. Close eyes, stand on the toes and see how long balance can be maintained. Record the number of seconds balance is maintained.

77. Devise five activities with the eyes closed.

78. Partners walk beam in various ways. Each partner starts from opposite end of the beam and passes the other in the center without either one stepping off the beam.

79. Walk on all fours on beam. Go to the end forward and then return in the backward direction.

80. Invent seven more ways to cross the beam.

81. Obtain a cane pole about eight feet long. Using the pole, go through as many activities covered in the previous items as you can.

82. Obtain a plastic bleach bottle; wash it out and fill it partially with water. Using the water bottle, go through as many of the previous items as you can.

83. Tie the water bottle on the end of the pole. Hold the pole horizontally and cross the board.

84. Use the bottle and the pole and invent seven ways to cross the beam.

KEEP EYES ON FIXATION POINT

THE ZIG-ZAG LINE

The Zig-Zag Line provides a more define area in space for the child to place his feet as he performs various locomotor activities. The more precision demanded by a task the more control required to perform it. As long as the control requirements are not beyond the capabilities of the child, this demand for more percise control increases the training value of the activities.

2. SUSPENDABLE BALL ACTIVITIES

Objectives:

1. The child will develop eye-hand coordination capable of doing the task.
2. The child will move across his midline without a change in ability.

ACTIVITIES

1. Stand facing the ball. Bat the ball about any way you want to do it. Keep the ball under your control at all times. Hit the ball using slow measured movements. (The instructor can hold up one hand and have the child bat the ball such that it moves through space to the hand).

2. Bat the ball about with your fist. Keep the ball under control

3. Open your hand and hit the ball with the palm of your hand.

4. Alternate back and forth and hit the ball first with your left hand and then with your right hand.

5. Hit the ball with your left hand only.

6. Hit the ball with your right hand only. Keep the ball under control at all times. Be sure you follow the ball with your eyes as it swings through space.

7. Hit the ball with alternate hands on command. (The instructor will call left or right and the child will respond by hitting the ball as directed. The closer the ball is to the child when the command is given the faster he is required to discriminate left from right).

8. Invent a new activity using the suspendable ball.

9. Lower the ball to a point where it can be easily kicked. Kick the ball following the patterns outlined in number 1, 3, 4, 5, 6, and 7. (Generalize by changing the height of the ball).

10. Hit the ball with the toe and the instep. Hit the ball with the outside of the foot.

11. Do not raise the ball. Move back to a point where the ball will swing up to the level of the chest. Hit the ball Karate style, using the side of the hand. Move about and hit the ball.

12. Clasp the hands together behind the head. Hit the ball with the elbows. Again following the patterns above.

13. Hit the ball with the hips.

14. Hit the ball with the knees.

ACTIVITIES FOR SUSPENDABLE BALL USING A BAT.

1. Smooth and straight - for ten continuous strokes at any point on pin.
2. Count own consecutive taps.
3. On the center stripe - for ten continuous strokes, with the ball being tapped right on the center stripe of the bat at all times.
4. Count own consecutive taps.
5. On the end lines - crossing midline without losing control of the ball.
6. Count own consecutive taps.
7. Name side of the bat that is making contact with the ball in the alternate end procedure.
8. Have another person call out colored stripes "yellow" or "green" in random order.
9. Have another person call out "right" or "left" in random order.

For Partners

10. Bat the ball back and forth to each other - smooth and straight at any point on the pin.
11. Bat the ball back and forth - smooth and straight on the center stripe.
12. Bat the ball back and forth smooth and straight on line indicated by server. If the server (first one to begin) hits the green line - the opposite player must return on the same line or forfit a point.

(Any difficulty on step 5 and child should return to activities 1 and progress through again for further practice.)

3. BALANCE BOARD PROGRESSION *

Objectives:

1. The child will maintain their balance under changing relationships.
2. The child will pinpoint the center of gravity within his body.
3. The child will develop better motor control.

PROGRESSION

1. Stand on board with arms straight out. Look straight ahead.

2. Stand on board with arms straight up. Look straight ahead.

3. Stand on board with arms straight forward. Look straight ahead.

4. Stand on board with arms to side, going straight up and down.

5. Stand on board with arms straight out. Rotate arms. Look straight ahead.

6. Stand on board holding rulers in hands. Put arms straight out.

7. Stand on board holding rulers in hands. Put arms straight up.

8. Stand on board with hands on hips.

9. Stand on board balancing a bean bag on head.

10. Stand on board. Throw ball up in the air and catch it.

11. Stand on board. Throw ball to partner and then catch it.

12. Stand on board. Bounce ball.

13. Stand on board.
    a. Throw ball with one hand up in the air and catch it.
    b. Throw ball with other hand up in the air and catch it.

14. Stand on board. Throw ball with one hand and catch with the other.

* Maintain balance by spreading the feet wide on the board. Do not let the end or edges of the board touch the floor. Look straight ahead at a fixation point.

BY HITTING THE BALL WITH VARIOUS BODY PARTS, THE CHILD DEVELOPS AN AWARENESS OF BODY POSITION AND SPATIAL RELATIONS. EYE HAND CO-ORDINATION IS BUT A PART OF EYE TOTAL BODY COORDINATION. WE WILL ACHIEVE EYE HAND COORDINATION FASTER IF WE THINK IN TERMS OF DEVELOPING THE TOTAL SYSTEM.

15. Stand on a balance or rocking board and try to remain balanced while performing all of the above activities. (This develops a more dynamic and total control and coordination of the complete system).

16. Jump on the Trampoline Board and perform the above activities.

17. Swing the ball, touch the top of your head and then catch the ball as it swings back.

18. Swing the ball, touch your left ear, your right hip, the tip of your nose and then catch the ball as it swings back to you. (This and the activity in number 17 help the child develop body awareness and body image. Multiple commands help the child develop auditory memory).

19. Invent your own activity using the ideas presented in number 17 and number 18.

4. MAT ACTIVITIES AND ROLL PROGRESSION

Objectives:

1. The child will develop an awareness of his position in space.
2. The child will control his body in space.
3. The child will coordinate mental and motor activity.
4. The child will develop directionality.

PROGRESSION

1. Log Roll (arms and legs extended).
2. Egg Roll (knees against chest, held by hands).
3. Log Roll, Egg Roll.
4. Log Roll, Egg Roll, Log Roll.
5. Forward Roll (end on seat).
6. Forward Roll (end on feet, knees bent).
7. Forward Roll (end on feet, standing).
8. Forward Roll, one way, Forward Roll, another way.
9. Forward Roll, Egg Roll, Forward Roll.
10. Log Roll, Egg Roll, Forward Roll.
11. Leap Frog.
12. Forward Roll, Leap Frog, Log Roll.
13. Forward Roll, Leap Frog, Log Roll, Egg Roll.
14. Forward Roll, Log Roll, Egg Roll, and Ball Pick-up, Toss up, and Catch.
15. Backward Roll.
16. Backward Roll, Push to stand.
17. Backward Roll, Forward Roll.
18. Backward roll, Turn, Forward Roll.
19. Backward Roll - Log Roll, Egg Roll.

20. Two Forward Rolls, one Backward Roll.

21. Double Forward Roll (two children).

22. Two Forward Rolls, Backward Roll to stand, Side Roll, Log Roll, Ball Pick-up, Toss up, and Catch.

23. Double Backward Roll (two children).

STUNTS AND TUMBLING ACTIVITIES

The first grade program consists primarily of simple imitative walks and movements. The front roll is introduced but its refinement is left to later grades. Only a few simple balance stunts are included here, all using an upright position. The teacher should be concerned with creative aspects of the activities as well as the performance standards. Children will tend to do the first grade stunts in many different ways because of different interpretations. Good terminology should be used in describing the different movements. Jumping, hopping and leaping have different meanings in physical education, and the terms should be used properly.

ACTIVITIES FOR THE FIRST GRADE

Puppy Dog Run
Bear Walk
Rabbit Jump
Elephant Walk
Bouncing Ball
Gorilla Walk
Lame Dog Walk
Cricket Walk
Rising Sun
Front Roll
Balance Touch
Heel Click
Seal Crawl
Crab Walk

Puppy Dog Run

Place hands on the floor, bending the arms and legs slightly. Walk and run like a happy puppy. The teacher should see that the youngsters look ahead. By keeping the head up in good position, the neck muscles are strengthened.

Variation: Children may also use the same position to imitate a cat. Walk softly, stretching at times like a cat.

Bear Walk

Bend forward and touch the ground with both hands. Travel slowly forward by moving the hand and foot on the same side together, that is, the right hand and foot are moved together and then the left side.

Variation: Have them lift the free foot and hand high while the support is on the other side.

Rabbit Jump

Crouch to a deep knee bend position and place the hands on the floor in front of the feet with the knees pointed out. Move forward first with the hands and then bring the feet up to the hands. Emphasize to the children that this is called a jump rather than a hop because both feet move at once.

Variation: Try with the knees kept together and arms on the outside.

Elephant Walk

Bend forward, clasping hands together forming a trunk. Walk forward in a slow dignified manner with big steps, keeping the legs straight and swinging the trunk from side to side.

Head Balance

Place a bean bag, block, or book on the head of the child. Have him walk, stoop, turn around, etc. The object should be placed so that the upper body is in good posture.

Tight Rope Walk

Select a line, board, or chalked line for the stunt. Arms are held sidewards for balance. Children pretend to be on a high wire, losing and regaining balance, and making slow progress. Different stunts done on a high wire can be tried on the line.

Bouncing Ball

Keeping the body straight, jump up and down from a bent knee position. Start with a high "bounce" and gradually lower the height of the jump to similate the ball coming to a rest.

Variation: Do this as a partner stunt with one partner serving as the bouncer and the other as the ball. Reverse positions.

Gorilla Walk

Bend knees slightly and carry the trunk forward. Arms hang at the side. As the child walks forward, he should touch his fingers to the ground at each step.

Variation: Let the children stop and beat on their chests like a gorilla.

Lame Dog Walk

Walk on both hands and one foot. The other foot is held in the air as if injured. Walk a distance and change feet. Eyes should be forward.

Cricket Walk

The child squats and spreads his knees. He puts his arms between his knees and grasps the outside of his ankles with his hands. In this position, he walks forward or backward. He can chirp like a cricket.

Rising Sun

Lie on back. With using the arms only for balance, rise to a standing position.

Variation: Have the children fold arms over the chest.

Front Roll

Stand with feet apart and facing forward. Bend and place the hands on the mat, shoulder width apart. Tuck the chin to the chest and make a rounded back. A push-off with the hands and feet provides the force for the roll. The child should carry the weight on his rounded back and shoulders, not on his head. Kneeling alongside the child, the instructor can help by placing one hand on the back of the child's head and the other under the thigh for a push.

Balance Touch

An object (eraser, block, or rolled up paper) is placed a yard away from a line. Balancing on one foot, the child reaches out with the other foot, touches the object, and recovers to the starting position. See that he does not place weight on the object but merely touches it.

Variation: Try at various distances.

Heel Click

Stand with feet slightly apart. Jump up and click heels, coming down with feet in original position.

Variations:
1. Have the child clap hands as he clicks his heels.
2. Another variation is to have the child join hands with one or more children. A signal is needed. The children can count, "One, Two, THREE," jumping on the third count.

Seal Crawl

The child is in a front leaning (push-up) position, the weight supported on straightened arms and toes. Keeping the body straight, the child walks forward using his hands for propelling force and dragging his feet. Watch to see that the body is straight and the head is up.

Variation: Let the child walk forward a short distance and then roll over on his back, clapping his hands like a seal.

Crab Walk

The child squats down and reaches back putting both hands on the floor without sitting down. With head, neck and body level and in a straight line, walk forward, backward, and sideward. Children have a tendency to lower the hips. See that the body is kept in a straight line.

Variations:
1. As each step is taken with a hand, the other hand can slap the chest.
2. Move the hand and foot together on the same side.

5. TIRE OR INNER TUBE ACTIVITIES

Objectives:

1. The child will be exposed to spatial words.
2. The child will solve problems posed by the instructor.
3. The child will move his body through space toward an objective.
4. The child will develop gross motor abilities.

ACTIVITIES

Use an inflated large airplane inner tube. A large truck inner tube can also be used. Tubes can be purchased for a reasonable price at most army surplus stores, local air fields, or rubber manufacturing plants.

PROBLEM-SOLVING ACTIVITIES

1. Can you run around your tire?

2. Can you go the other way?

3. How else can you move around the tire?

4. Can you put one foot in the middle of the tire as you jump over it? The other foot?

5. Can you carefully put both feet in the middle of the tire as you jump across?

6. Can you jump on and then bounce off?

7. Can you jump and touch both sides of the tire as you miss the middle?

8. Find some other things you can do.

9. Can you roll your tire and keep it from falling over?

10. Can you spin your tire like an egg beater?

11. Can you climb in and out and around your tire?

12. Can you keep time to the music by bouncing on the tube (sitting)? (If several people are on the tube, the ones out of rhythm discover it quickly when they suddenly get the repercussions from the other children's bounces).

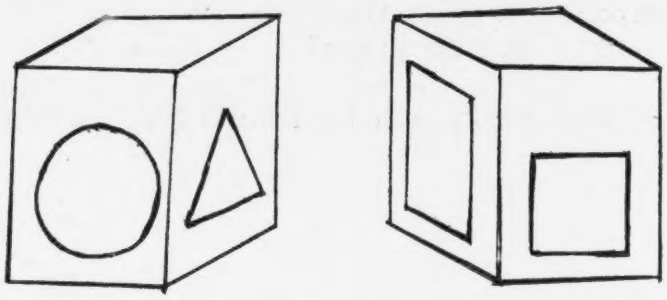
13. Can you jump up and down on your tube? (At first, hold the child's hands or waist to give him a feeling of balance and confidence. Some children will need this support longer than others).

14. Can you catch the tube when I swing it to you?

15. Standing in the middle of your tube, can you jump out backwards? Sideways to the left? To the right?

16. On the playground, the tires can be stacked to do the activities.

6. FORM BOX ACTIVITIES



Objectives:

1. Children will learn the limits of their own bodies and the space needed to contain it.
2. Children will be exposed to the shapes - circle, square, rectangle, and triangle.
3. Children will be exposed to left to right progression
4. Children will begin to understand constancy of form.

A form box can be made with any large cardboard box. The shapes are cut large enough and low enough to enable the children to crawl through them. Bind the edges with masking tape. Spray with bright enamel, a different color for each shape.

Children can crawl through the shapes following a different pattern each day as they crawl through the form box. The patterns will be pre-reading activities using shapes which correspond to the shapes on the form box. The child will be reading shapes which give directions, instead of letters, with the directions changing each day. All of these patterns will go from left to right and from top to bottom.

ACTIVITIES

1. Draw the shapes individually on large pieces of cardboard exposing them one at a time.
    a. Cut the shapes out.
    b. Colors to correspond to form box .
    c. Color in black.
    d. Color in many variations.
    e. Outline in black .

2. Place cut out shapes on the wall beside the number for this activity.
    a. Use colors which correspond to colors on form box .
    b. Use black.
    c. Use many variations in color.

3. Each child has his own mimeograph sheets which contain the shapes in rows of four from left to right and which travels from top to bottom as in reading.
    a. Child colors the shapes to correspond to form box.
    b. Child colors the shapes with many color variations.

7. JUMP BOARD ACTIVITIES

Objectives:

1. To develop dynamic balance
2. Correct faulty gross motor problems
3. Correct rhythm of a gross nature
4. Develop internal rhythm that matches the rhythm of the board
5. Develop an internal awareness of left and right (laterality)
6. Generalize motor patterns of the fine muscle groups
7. To make a visual judgment of space

PROGRESSION

Eyes should always be on fixation point (This seems to work better if children work as partners).

1. Jump free style in one place on the board.

2. Jump free style with a weight in the left hand.

3. Jump free style with a weight in the right hand.

4. Jump free style with a weight in each hand.

In exercises 1, 2, 3, 4, have child hold arms in varied positions as he jumps straight out in front, straight out to the side, on hips, above head, swinging freely.

5. Repeat exercises 2, 3, 4, having child jump the length of the board, turning around and jumping back.

6. Jump free style and play catch with a bean bag.

7. Jump free style and pitch bean bag at a target.

Exercises 8 through 13 are exercises to train rhythmic memory. If a child breaks down at a particular level - he should begin the progression again.

8. Jump on first one foot then the other.

9. Jump on right foot once and left foot twice.

10. Jump on left foot once and right foot twice.

11. Jump on left foot twice and right foot twice.

12. Jump on right foot three times and left foot twice.

13. Jump on left foot three times and right foot twice.

14. Have child jump his favorite way on jump board.

Observe what exercise the child chooses - if it is much lower in the progression than where the child is working, child may be going too fast and need to back down to earlier exercises.

15. Have the child make up ways to jump on the board.

16. Beginning jumping jack-feet only.

17. When 16 is mastered add the arm movement to complete the jumping jack.

18. Do jumping jack with weight in left hand.

19. Do jumping jacks with weight in right hand.

20. Do jumping jack with weight in both hands.

21. Bounce a large rubber ball while bouncing on board.

22. Jump over a stick, turn around and jump over stick coming from opposite direction.

23. Jump over a stick from side to side.

24. Jump over a stick fore and aft.

25. Jump rope on the jump board using both feet, then alternate right first - left first.

8. BODY BALANCE PROGRESSION

Objectives:
1. The child will follow directions using labels for laterality.
2. The child will maintain body balance in differing attitudes.

PROGRESSION

Give the child all the following directions. If he cannot succeed, first repeat instructions one at a time and if he still cannot succeed, place him in position repeating the instructions as you do so.

1. Stand on the foot you like. Put your arms out to the side.

2. Stand on your other foot. Put your arms out to the side.

3. Stand on the foot you like. Hold your other foot with your other arm.

4. Stand on your right foot. Hold left foot with your left arm.

5. Stand on your left foot. Hold your right foot with your right arm.

6. Stand on your left foot. Hold your right foot with your left arm.

7. Stand on your right foot. Hold your left foot with your right arm.

8. Get on your hands and knees.
    a. Put your right arm up. Put your left arm and both knees on floor.

    b. Put your left arm up. Put your right arm and legs on mat.

    c. Put your left leg up. Put your right leg and both arms down.

    d. Put your right leg up, left leg down and both arms.

9. Stand on your right leg. Put both arms out to the side.

10. Stand on your left leg. Put both arms out to the side.

11. Stand on your right leg. Put both arms forward, and put your left leg back.

12. Stand on your left leg. Put both arms forward and put your right leg back.

13. Put both arms forward, alternate legs. Stand on your right leg. Put both arms forward and put your left leg back.

14. Stand on your left leg. Put both arms forward.

15. Put both arms backward. Stand on your right leg and put your left foot forward. Point your left toe.

16. Put both arms back. Stand on your left leg and put your right foot forward. Point your right toe.

17. Lay on your back. Lift yourself up on your hands and feet. Make your back straight. Face the ceiling.

    a. Put your left arm up. Put your right arm and both legs down.

    b. Put your right arm up. Put your left arm and both legs down.

    c. Put your left leg up. Put your right leg and both arms down.

    d. Put your right leg up. Put your left leg and both arms down.

18. Sit with both feet straight in front. Put arms to the side.

    a. Lift your right arm straight out.

    b. Lift your left arm straight out.

    c. Lift your right leg and point your toe.

    d. Lift your left leg and point your toe.

    e. Lift both legs and point your toes.

    f. Lift your right arm straight out. Lift both legs and point your toes.

    g. Lift your left arm straight out. Lift both feet and point your toes.

    h. Lift both arms straight out. Lift both feet and point your toes.

19. Lay on your back with your arms to your side and your legs straight.

    a. Put your right arm and left leg up. Put your left arm and right leg down.

    b. Put your left arm and right leg up. Put your right arm and left leg down.

    c. Put your left arm and right leg up. Put your right arm and left leg down. (face down)

    d. Put your right arm and right leg up. Put your left arm and left leg down. (face down)

    e. Put your left arm and left leg up. Put your right arm and right leg down. (face up)

f. Put your right arm and left leg up. Put your left arm and right leg down. (face down)

g. Put your left arm and left leg up. Put your right arm and right leg down. (face down)

9. SEQUENCED ALPHABET WALKING LINE ACTIVITIES

Objectives:

1. The child will be able to move while being exposed to the alphabet.
2. The child will be aware of alphabet:
   a. shape.
   b. name.
   c. sound.
   d. words.
3. The child will be able to move toward a visual target.

ACTIVITIES

This line can be purchased or the letters can be cut from contact paper and pasted on the floor with the letters facing the child as he moves down the line.
Name level (no sound association)

1. Walk the line saying the letters.
2. Walk the line left over right, saying the letters.
3. Hop the line saying the letters.
   a. Hop first on one foot and then another.
   b. Two hops on one foot and two on another.
   c. Three hops on one foot and three on another.
4. Tiptoe the line saying the letters.
5. March the line saying the letters.
6. Seat children facing the letters for picking out individual letters out of order.
   a. Direct the child to find c - a - m - etc.
   b. Direct the child to find series of letters, this time in order of alphabet
      (1). Series of two a--e
      (2). Series of three a--e--i
      (3). Series of four a--e--i--o
   c. Direct the child to find his own name on the line and spell it out.
      (1). Find the first letter of his first name.
      (2). Find the first letter of his last name.
      (3). Find the initials of his whole name (explain initials).

Sound level (sound associated with symbol)

1. Seat children facing the letters for picking out individual letters out of order.
   a. Find the letter which says s-s-s-s-s-s, m-m-m-m-m-m, etc.
   b. Find the letter which says z-z-z-z-z and thell me its name.
   c. Hand each child a letter card which matches the alphabet letters on the line and direct each child to find the letter which matches the letter they have, place the card on the line, and say the letter's name and the letter's sound.

Word level (sound and symbol associated with word)

1. Seat children facing the letters. Individually the children will find letters within words.

a. Find the letter you would see at the beginning of the word mouse--turtle--etc.
b. Find the letter you would see at the end of the word drum--bus--etc.
c. Find the vowel or vowels you see in the middle of cat--meat--etc.
d. Find the consonant digraph (two letters) which you see at the beginning of thimble---shoe--etc.
e. Find the digraph (two letters) which you see at the end of wish--witch--etc.

10. HULA HOOP ACTIVITIES

Objectives:

1. Children will learn the limits of their own bodies.
2. Children will see the relationship of their own position to the position of other objects.

ACTIVITIES

1. Lay hoops on the ground
    a. Jump in them with two feet together sideways.
    b. Hop in them with preferred foot.
    c. Hop in them with other foot.
    d. Jump in them with alternate feet.

2. Use hoops as tunnel (have children hold them or hang from ceiling), crawl through them without touching.

3. Roll hoop way out on playground, children run and bring it back.

4. Roll the hoop slowly, child can dive into it onto mat.

5. Rotate the hoop on hand, then on arm, then on elbow.

6. Swing the hoop back and forth - jumping through it each time.

7. Swing the hoop like a jumping rope
    a. Jump forward
    b. Jump backward

8. Roll the hoop from child to child around a circle.

9. Balance the hula hoop on the index finger.

RHYTHM TAPE

The motor activities room can also be used for rhythms which emphasize the auditory motor function. Equipment in the room can be moved aside and the children can move through space as their ears tell them to. These songs can be sung to piano or recorded. Clop sticks (12" sticks 1" in diameter) can be used along with the tapes, two sticks for each child.

1. I've Been Working On The Railroad (March)
   All children march on large outer circle clockwise.

2. Skip To My Lou (Skip)
   Double circle, partners facing, taking hands to skip on chorus "Lou, Lou."

   1. Lou Lou skip to my Lou
      " " " " " " (Skip clockwise
      " " " " " " holding hands)
      Skip to My Lou my darling.
   2. Flies in the buttermilk (face partner)
      Shoo fly shoo (sing 3 times - hands shoo flies)
      Skip to my Lou my darling.
   3. Chicken in the bread tray (face partner)
      What'll I do (sing 3 times - shrug shoulders)
      Skip to my Lou my darling.
   4. Choose your partner (face partner)
      Skip to my Lou (sing 3 times)
      Skip to my Lou my darling.
   5. I'll get another one (inside circle move up 1 to get new partner)
      Prettier than you (sing 3 times)
      Skip to my Lou my darling.
   6. Repeat "Lou, Lou" (skip clockwise)

3. Hokey Pokey (Action)
   All children on outer circle facing center.
   1. I put my right hand in, I put my right hand out
      I give my right hand a shake, shake, shake
      And turn myself about.

   2. Left hand - repeat above.
   3. Right foot - repeat above.
   4. Left foot - repeat above.
   5. Pumpkin Head - repeat above.
   6. Whole Self - repeat above. (take 1 step in, 1 out)
   7. Hokey, Pokey (Hands above head, bend touch toes)
      Hokey, Pokey " " " " " "
      That's what it's all about! (clap legs twice
      clap hand twice
      Reach hands above head)

4. Hokey Pokey - Music only
   Children do actions

5. If You're Happy (Action)
   All children on outer circle facing center
   1. If you're happy and you know it, clap your hands
      If you're happy and you know it, clap your hands
      If you're happy and you know it, and you really want to show it
      If you're happy and you know it, clap your hands.
   2. Pat your head - repeat above
   3. Blink your eyes - repeat above
   4. Pull your ears - repeat above
   5. Nod your head - repeat above
   6. Tap your foot - repeat above
   7. Turn around - repeat above
   8. Clap your hands - repeat above

6. The Hat Parade (Circle - Action)
   Six children wear hats walking around inside circle, other children sit facing t em on outer circle, singing

   1. Who will wear a hat in the hat parade today
      Who will wear a hat in the hat parade today
      Who will wear a hat, who will wear a hat
      Who will wear a hat in the hat parade today -
   2. Repeat above
   3. Children give hats to someone on circle, exchange places
   4. Repeat

7. Make My Living (Rest - all sit on circle facing center)
   1. Make my living in sandy land
      Make my living in sandy land
      Make my living in sandy land
      Ladies fare thee well
   2. Grow sweet potatoes in sandy land (3 times)
      Ladies fare thee well
   3. Grow some peanuts in sandy land (3 times)
      Ladies fare thee well
   4. Grow white cotton in sandy land (3 times)
      Ladies fare thee well
   5. Repeat (1)

8. Jenny Crack Corn (Circle - Action)
   All children stand on outer circle facing center.
   1. Jenny crack corn and I don't care
      Jenny crack corn and I don't care
      Jenny crack corn and I don't care
      The Master's gone away
   2. Right hand up and I don't care
      (repeat 1)
   3. Left handsup and I don't care
      (repeat 1)
   4. Both hands up and I don't care
      (repeat 1)
   5. Do Se Do and I don't care (fingers in air - twist)
      (repeat 1)
   6. Roll 'um in boys and I don't care (roll hands)
      (repeat 1)
   7. Jenny crack corn and I don't care
      (repeat 1)

9. Stamping Land (Circle - Action)
All children stand on outer circle facing center
1. I traveled far across the sea, I met a man and old was he
Old man I said, where do you live? And this is what he told me:
(a) Follow me to Stamping Land, Stamping Land, Stamping Land
All who wish to live with me, follow me to Stamping Land.
2. Repeat (1)
(b) Clapping Land
3. Repeat (1)
(c) Tapping Land
4. Repeat (1)
(d) Nodding Land
5. Repeat (1)
(e) Pointing Land
6. Repeat (1)
(f) Swaying Land
7. Repeat (1)
(g) Stamping Land

10. My Little Puppy's Names Is Rags (Circle - Action)
All children stand on outer circle facing center
1. My little puppy's name is Rags
He eats so much that his tummy sags (lock hands, sway hands under tummy).
His ears flip flop (hands flip, flop on ears)
And his tail wig wags (hands wig wag on posterior)
And when he walks
He zigs and zags (arms, bent at elbows, move forward and backward)
Chorus Flip, Flop (repeat above directions)
Wig, Wag " " "
Zig, Zag " " "
2. My little puppy likes to play
He rolls himself in the dirt all day
I whistle (children whistle) but he won't obey
He always runs the other way.

Repeat chorus

3. He doesn't have a pedigree
But I love him
And he loves me - Arf, Arf!

11. Going on The Choo Choo

CLOP STICK ACTIVITIES

(Can be used with rhythm activities)

1. Tap sticks together, tap on floor twice.
2. Tap sticks together, tap on floor twice.
3. Tap sticks together, cross sticks twice.
4. Tap sticks together, tap stick with right on floor.
5. Tap sticks together, tap stick with left hand on floor.
6. Tap sticks together, cross sticks on right side, tap sticks together, cross sticks on the left side.
7. Tap sticks together, tap ends of sticks together twice.
8. Tap sticks together, change sticks from hand to hand.
9. Tap sticks together, turn sticks in same hand.
10. Tap sticks together, turn - exchange sticks from hand to hand.

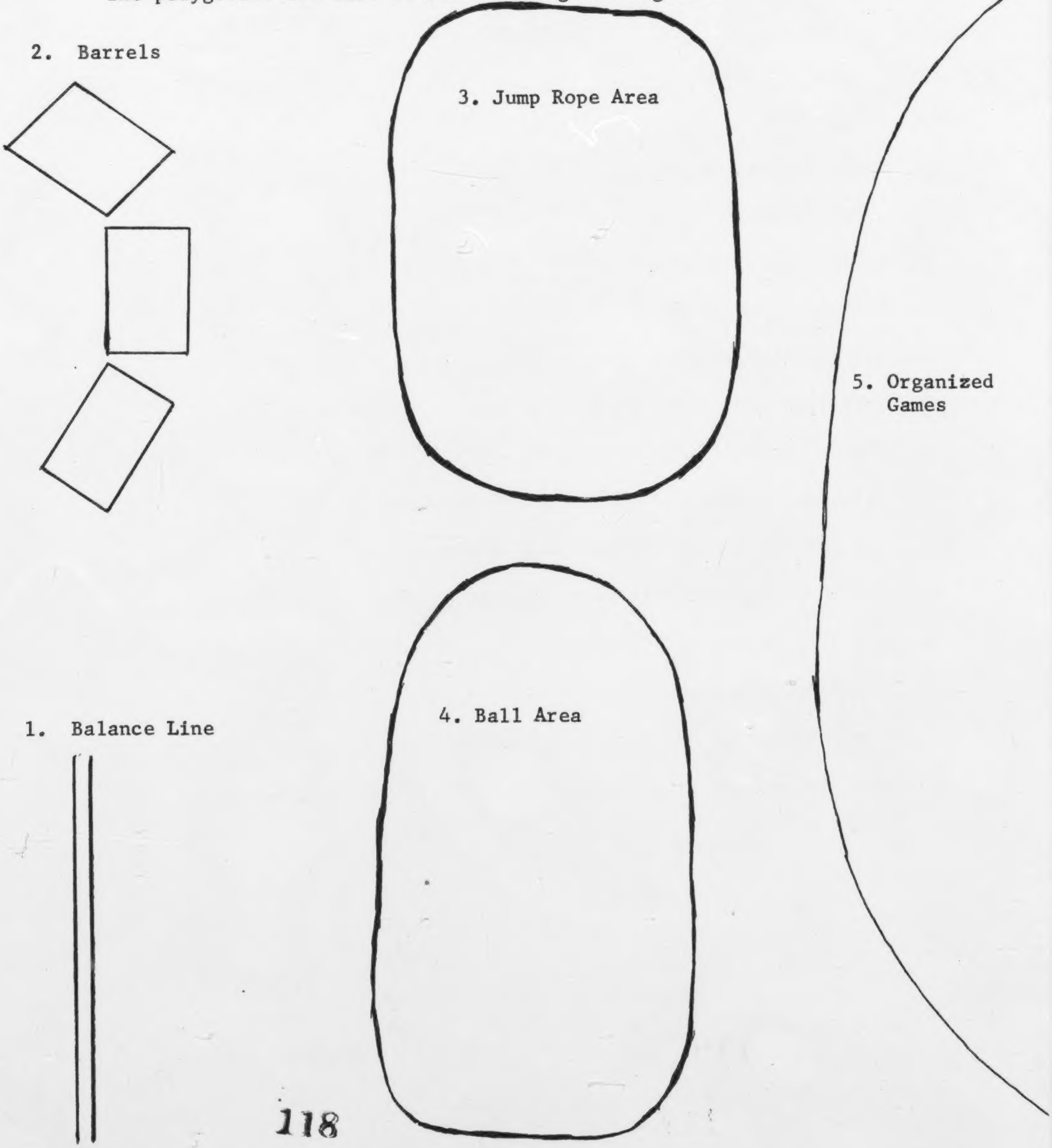
TWO CHILDREN

11. Click or tap sticks together twice (each child has two sticks).

PLAYGROUND OBSTACLE COURSE

A playground obstacle course can also be set up for the High Challenge child and for general classroom use. Some activities are the same as those indoors.

The playground can also be used for organized games.


2. Barrels
3. Jump Rope Area
5. Organized Games
4. Ball Area
1. Balance Line

BARREL ACTIVITIES
FOR LARGE METAL BARRELS

Objectives:
1. The child will discover the space needed for his body.
2. The child will use vision to move to and through a target.
3. The child will discover where his body is (different parts).

ACTIVITIES

1. Creep head first.
2. Creep feet first.
3. Crawl forward on tummy.
4. Crawl backward on tummy.
5. Go through on back.
6. Go feet first on back.
7. Lie full length of barrel on top.
8. Roll back and forth while lying across the barrel.
9. Sit on barrel like a horse and rock from side to side.
10. Balance on hands and knees on side of barrel.
11. Lie down in barrel and roll over and over.
12. Sit in barrel and roll over and over.
13. Stand in barrel and climb out.
14. Stand on barrel.
15. Stand on barrel and rock back and forth.
16. Add any variations you can think of on the child's level.

JUMP ROPE PROGRESSION

Objectives:

1. Child will develop visual sequence and memory.
2. Child will control his body in space.
3. Child will become aware of temporal relationships.
4. Child will begin to develop rhythm.
5. Child will develop a better body concept.

PROGRESSION

1. Arms (fold rope - sitting position - put under one leg).
2. Arms (fold rope - sitting position - put under two legs).
3. Arms (fold rope - bring down behind back and back up in front in standing position.
4. Rocker - use rope to hold feet.
5. Hula Hoop on floor - jump into center with both feet forward.
6. Hula Hoop on floor - jump out of center with both feet backward.
7. Jumping Rope on floor - jump over with both feet forward.
8. Hopscotch.
9. Rope on floor - jump over with both feet backward.
10. Rope on floor - jump forward and backward over rope.
11. Rope on floor - jump sideways over rope with two feet and back again.
12. Rope on floor - jump forward over rope on right foot and back again.
13. Rope on floor - jump forward over rope on left foot and back again.
14. Rope on floor - jump sideways over rope with left foot and back again.
15. Rope on floor - jump sideways over rope with right foot and back again.
16. Hold rope in hands - over head and back again.
17. Rope in hand - step over forward.
18. Hold rope in hands - step over backward.
19. Hold rope in hands - jump forward.
20. Hold rope in hands - jump backward.
21. Hold rope in hands - jump forward and backward.

22. Hold rope in hands - jump over rope with right foot and back again.
23. Hold rope in hands - jump over rope with left foot and back again.
24. Hold rope in hands - do 5 jumps frontward - two feet.
25. Hold rope in hands - do 5 jumps frontward - one foot.
26. Hold rope in hands - do 5 jumps frontward - alternate feet.
27. Hold rope in hands - do 5 jumps frontward - skipping between jumps.
28. Hold rope in hands - do 5 jumps frontward - skip 5 times forward.
29. Hold rope in hands - do 5 jumps backward - two feet.
30. Hold rope in hands - do 5 jumps backward - one foot.
31. Do 5 jumps forward and 5 jumps backward.

FUN WITH JUMP ROPE:

1. Jump for 30 seconds by stopwatch and count number of times the children jump.
2. Jump for 1 minute by stopwatch and count number of times the children jump.
3. Sit-ups with rope folded - overhead to sitting position.
4. Upper back stretch with rope folded in half.
5. Arm circling with rope folded.
6. Circling and bouncing with rope folded.
7. Kneeling and circling with rope folded.
8. Sitting and circling with rope folded.
9. Standing trunk circling with rope folded.
10. Side circling with rope folded.
11. Arms crossed - in front of body before forward jump.
12. One 8 ft. rope - partners chained - jumping - side by side.
13. Twirl - rope sideways while jumping.
14. Spin rope in circle over head or under feet.

TO JUMP ROPE WELL:

1. Be sure your rope is long enough.
2. Keep hands away from the hips.
3. Jump with slow tempo when learning the fundamentals.
4. Keep the head up.
5. Find a fixation point ahead of you.
6. Keep your shoulders level
7. Let the hands do most of the work when turning the rope.
8. Relax your body while jumping.
9. Bend at the knees and hips.
10. Land on the balls of the feet.
11. When crossing the rope, cross the arms at the elbow.

BALL PROGRESSION

Objectives:

1. The child will coordinate eyes with hands, body and feet.
2. The child will use temporal and spatial relationships.

PROGRESSION

1. Push ball out from chest.
2. Push ball out from waist.
3. Swing right arm forward to shoulder height, change the ball to the left hand and swing the left hand back.
4. Ball in wrist grasp in right hand, arm to the side. Swing the right arm across the body to the left, change the ball to the left hand and swing it across to right side.
5. Circle around in front of the body - forward, then reverse.
6. Balance stand on one foot with ball in one hand.
7. Balance stand on one foot with ball in two hands.
8. Pick ball up off of floor - two hands.
9. Pick ball up off of floor - one hand.
10. Pick up ball in between feet.
11. Bend and reach with ball.
12. Twist trunk with ball in hands.
13. Throw ball in air - catch on chest with one hand. Alternate hands.
14. Roll ball over the shoulders.
15. Hold arms out, bounce ball from horizontal position.
16. Bounce ball with knees bent.
17. Bounce ball with two hands.
18. Bounce ball alternating left hand and right hand.
19. Bounce ball to another child.
20. Toss underhand to another child.

21. Toss overhand to another child.

22. Toss two balls back and forth between two children.

23. Juggle a ball.

24. Toss a ball up and jump.

25. Dribble a ball on a straight line with two hands.

26. Dribble a ball on a straight line with one hand.

27. Dribble the ball with feet on a straight line.

LOW ORGANIZATION GAMES

GENERAL OBJECTIVES:

1. To keep the children successful by a simple progression of low-organized games - simple to complex.
2. Better awareness of upper and lower extremities by playing the low-organized games.
3. Develop a better location sense within the body and to external objects by playing the games.
4. To build up visual memory and sequence by increasing the number of rules as the sequence progresses from simple to complex.
5. To help develop a sense of how long and wide his body is.
6. To develop flexibility in the games by changing the movement from front to lateral to back, etc.

SOME IDEAS FOR LOW ORGANIZATION GAMES ARE SHOWN ON THE FOLLOWING PAGES.

SHARKS AND GUPPIES

TYPE: "It" game, everybody participates

MATERIALS: None

AREA: 12' Circle

NUMBER OF PLAYERS: 12

OBJECT OF THE GAME: Guppies to stoop quickly after the word "me" to escape being tagged by the shark.

RULES: Children form a circle; one child is the shark. The others are guppies. They move around the circle, pretending to swim, chanting:

> "Little Guppies are we
> We live in the sea.
> The old Blue Shark is coming
> But can't catch me!"

At the word "me" the children in the circle stoop, the shark trying to tag one before he can stoop. If a child is caught, he becomes the shark for the next game. If the children are slow at stooping because they want to be the shark, the rules may be changed so that the first one to stoop after the word "me," becomes the shark.

BIRDS AND BUTTERFLIES

TYPE:	"It" game, everybody participates
MATERIALS:	None
AREA:	12' circle in 30' square
NUMBER OF PLAYERS:	12
OBJECT OF THE GAME:	Butterflies to run to goal line to escape being tagged by Birds.
RULES:	One player, the Bird, squats in the center of a circle which is about 12 feet in diameter. This circle is placed in the center of a square with sides 30 feet long. The players, called butterflies, walk, skip, hop or run, as the bird directs, around the outside of the circle, all going in the same direction. When the bird jumps to his feet, they run to one of the lines which form the sides of the square, the bird in pursuit. Butterflies tagged by the bird before they run outside of the square become birds, and assist him in capturing more butterflies. The game is continued when the butterflies that have been tagged are in a stooping position in the circle with the bird. The original bird always gives the signal to start to chase. The last butterfly caught becomes the first bird for the new game.

BIG BIRD

SKILLS: Running

MATERIALS: None

NUMBER OF PLAYERS: Any Number

OBJECT OF THE GAME: For each player to try to reach the center of the circle and tag "Big Bird" first.

DIRECTIONS: The players are numbered from one to three, or one to four. The child in the center is "Big Bird." He calls a number and all the children who hold that number run around the circle, back to their starting positions, and then into the circle to tag "Big Bird." The first child who reaches "Big Bird" becomes the new "Big Bird", and calls a new number.

TEACHING SUGGESTIONS: The teacher can designate the direction in which the children should run before the game begins. Big Bird should be the judge in deciding which player reached him first.

BREEZE AND BOATS

TYPE: Group chasing group game

MATERIALS: None

AREA: 30' x 60'

NUMBER OF PLAYERS: 12

RULES: The players are divided into two groups, which stand on two parallel lines about 60 feet apart. The players stand about 5 feet from each other for safety in running. One group chooses the name of a boat, such as tug boat, sail boat, paddle boat; the other group is called the Breeze. The group representing the boats walk towards the opposite group representing the breeze. When the lines are about 10 feet apart, the boats stop. The line representing the breeze then tries to guess the name chosen by the boats. If they guess the correct name, the boats run back to their starting line, the breeze chasing them. All players caught by the breeze, return to the breeze's line. The remaining boats choose a new name and the game continues until all of the boats have been caught.

BIBLIOGRAPHY

Belgau, Frank A. A Motor Perceptual Developmental Handbook of Activities. La Porte, 1967.

Chaney, Clara M. and Newell C. Kephart. Motoric Aids to Perceptual Training. Columbus, 1968

Coffman, Alice O. Motor Activities. University City, 1969

Curry, Geneviene I. Winter Haven's Perceptual Testing and Training Handbook for First Grade Children. Winter Haven, 1969.

Kephart, Newell C. The Slow Learner in the Classroom. Columbus, 1960.

Leaver, John, Bill McKinney, Elaine Roe, and Judy Verholks. Manual of: Perceptual-Motor Activities. Johnstown, 1969.

VISUAL DEVELOPMENT

VISUAL DEVELOPMENT

Many growth and developmental experts maintain that the human is the most eye-minded of all living creatures, and approximately 80% of learning occurs through vision. "It seems that both aspects of that statement are important and interesting, somewhat questionable, and appropriate for systematic investigation; and yet, it has been determined that 80% of our learning occurs through the eyes. Although we may never confirm that figure, there is not a parent, teacher, psychologist, or other professional that would question the importance of vision in most aspects of learning." Other experts maintain that there has been noted increasing evidence to suggest that the auditory modality is perhaps equally important.

We must keep in mind that vision is a very active dynamic function. It is definitely not a passive or isolated function from the rest of human behavior. Of course, we do not see things merely as a picture on a screen, and must adapt to that fact because we live in a three dimensional world. The eyes receive a relatively flat two dimensional projection of what is not there in front of us, and as a result of having two eyes and the capacity to move them, we learn about shape, depth, and location of things in space around us.

"The Gesell Institute proposes that the action system and vision are so interfused that the two must be regarded as inseparable. Forres (1963) suggests that the process of vision . . . a complex interaction of many learned skills or abilities . . . and . . one prerequisite therefore, for the school age child is that the visual abilities be sufficiently developed to allow vision to truly be the leading sense modality on tasks of various kinds that are visual in nature. During infancy and early childhood, the child, through his experiences and activities with his environment, develops the ability to visually experience shape, distance, size and other cues which originally came through other senses. Developmental deprivation is suggested as the main cause of a deficiency of visual skills necessary for adequate school performance. This limitation is further complicated by the presence of stress which mounts in situations calling for confident visual performance.

Deficiencies in these areas of competancy will necessiate remediation which should focus on integrating visual abilities with other sensory and motor abilities, and building visual skill performance to counteract the effects of stress which has resulted from development of poor visual habits."

What is visual perception? Visual perception has been defined in various ways. For example, it has been pointed out that visual perception is not merely the ability to see accurately but rather the interpretation of visual stimulation which occurs in the brain and not in the eye. Thus, perception refers to the interpretation of stimulation of sense organs and it implies recognition of something else.

We can say for our purpose that visual perception is literally the capacity to interpret, or give meaning to, what is seen. When one perceives these four lines □ the sensory impression of them occurs in the eyes, but the recognition of them as a square occurs in the brain. Perceptual processes involve judgment and memory, lead to a process of thinking and influence subsequent perception. Visual perception is, perhaps, involved in every action we take. Similarly, auditory perception or tactile perception is the capacity to give meaning to that which is heard or touched.

Piaget and most specialists agree that the normal periods of maximum visual perceptual development ranges from about 3¼ to 7½ years of age. However, in every classroom there are children who lag in their visual perceptual development. A great many school age children begin school inadequately prepared to perform the visual perceptual tasks required of them. These children have difficulty recognizing objects and their relationship to each other in space, giving the appearance to them that the world is unstable and not predictable since they have distorted perception of the world. Proficiency in visual perception helps children to learn to read, write, and spell, to do arithmetic, and to develop all of the other skills necessary for success in school work.

Classroom teachers can begin to observe and assess children's visual-motor abilities in the primary grades. The importance of teacher's sensitivity to children's learning abilities, especially in first and second grades, cannot be overstated. It has been pointed out and demonstrated by various authorities that early assessment of children's learning characteristics, including visual characteristics, is very important for adequate and academic achievement.

A child may have difficulty recognizing similarities or differences among geometric figures, difficulty recognizing letters or words, difficulty copying geometric figures or letters and difficulty remembering material that is visually perceived; therefore, the teacher must determine whether the child is developing adequately in the visual mode.

The following Educator's Checklist is found to be helpful, as it shows observable clues to classroom vision problems.

I. Eye Appearance:

- a. Eyes tears excessively.
- b. Encrusted eyelids.
- c. Frequent styes on lids.
- d. Reddened eyes or lids.

II. Complains when using eyes at desk:

- a. Burning or itching after reading or desk work.
- b. Headaches in forehead or temples.
- c. Dizziness or nausea.
- d. Print blurs, becomes cloudy after reading a short time.

III. Behavioral signs of visual problems:

A. Ocular Mobility, eye movement abilities

1. Displays short attention span in reading or copying.
2. Head turns or moves as reads across page.
3. Loses place often during reading activities.
4. Needs finger, marker, or slit to keep place.
5. Frequently omits words.
6. Omits small words, repeatedly.
7. Prints up or down hill on paper.
8. Orients drawings poorly on page.
9. Reads half of a sentence and starts over again (repeats).
10. Rereads or skips lines unknowingly.

B. Binocularity - Eye Teaming Abilities

1. Sees double.
2. Constantly and consistantly shows gross postural deviations at all desk activities.
3. Omits numbers, letters and phrases.
4. Squints, closes or covers one eye.
5. Repeats letters within words.
6. Misaligns digits in number columns.
7. Tilts head extremely or lays head on desk while working at desk.

C. Eye-Hand Coordination Abilities

1. Must touch objects to assist in any interpretation required.
2. Must use his hand or fingers to keep his place on the page.
3. Must use other hand as "spacer" to control spacing and alignment on page.
4. Cannot stay on ruled lines - writes crookedly, inadequately spaced.
5. Frequently confuses left-right directions.
6. Misaligns both vertical and horizontal series of numbers and alphabet.

7. Eyes not used to coordinate hand movements.

D. Visual Form Perception

1. Mistakes or confuses with same or similar beginnings or endings.
2. Unable to recognize same word in next sentence.
3. Letters and/or words in writing and copying may be reversed.
4. Returns to tracing to decide likenesses and differences.
5. Unable to visualize what is read either silently or orally.
6. While reading silently whispers to self for reinforcement.
7. Frequently confuses similar beginnings and endings of words.
8. Mistakes same word in same sentence.

E. Refractive Status: Focus Problems, Farsightedness, Nearsightedness, etc.

1. Mispronounces similar words and continues reading.
2. Excessive blinking at desk tasks and/or reading.
3. Holds book too closely; face too close to desk surface.
4. Shuns all possible near-centered tasks.
5. Makes mistakes in copying from chalkboard to paper on desk.
6. Squints at chalkboard activities; or asks to move near.
7. Rubs eyes during or after period of visual activity.
8. Tires easily.
9. May complain of discomfort in tasks that demand visual interpretation.

As was stated earlier Gesell reports "...Seeing is not a separate, isolable function; it is profoundly integrated with the total action of the child - his posture, his manual skills and coordination, his intelligence, and even his personality make-up."

At the fetus stage of birth, the eyes are one of the first parts which develop. Long before birth, a vaguely defined tonic-neck-reflex is demonstrated. After birth behavior develops progressively:

> At *one* to *four* weeks a child stares vaguely at surroundings but gives active attention to close objects.
>
> At *four* to *sixteen* weeks a child's eyes become mobile, eye and head tend to move together, prefers tonic-neck-reflex posture.
>
> At *sixteen* to *twenty-eight* weeks a child reaches and grasp with mouth and hands, follows objects with eyes, shows some memory.
>
> At *forty* to *fifty-two* weeks a child pulls self to feet, begins to creep, has attention for detail, develops spatial relationships.
>
> At *one year* old a child knows grasp-release technique, refines spatial awareness, hears and localizes better.
>
> At *one year* and *three months* a child is able to stand unaided, walks alone -- usually discards creeping, listens and watches actively while seated, uses words "look," and "see" and is intrigued by eyes, his and others.
>
> At *one year* and *six months* a child has a strong motor drive, explores his environment, develops visual powers while standing, exhibits stronger tonic-neck-reflex.
>
> At *one year* and *nine months* a child cowers at strangers, explores details of environment, makes a fetish of personal objects.
>
> At *two years* a child runs without falling, uses space words, i.e., here, where, watches while his hands perform.
>
> At *two years* and *six months* a child is aware of dualism, i.e., yes and no, up and down, attracted by movement, dependent on manual contact.
>
> At *three years* a child is more social -- uses "we," better hand-eye control, more oriented to spatial world.
>
> At *three years* and *six months* a child stumbles, increased awkwardness, handedness shifts and is confused, stuttering and strabismus may develop.
>
> At *four years* a child races, hops, jumps, skips, climbs, and uses words with abandon, assertive and expansive, begins to show symmetrical motor patterns.

At five years a child shows command of self in relating to environment, actions are deliberate, self-contained.

At six years a child's activity is more chaotic and awkward, unpredictable behavior, more refined hand-eye coordination, reads words as well as letters, awkwardness in motor skills

At seven years a child withdraws, thinks things through, serious and sensitive.

Many programs are available to develop visual discrimination, perception, and sequencing. One is the Frostig Program for the Development of Visual Perception which is excellent for the child with visual perception problems. A test can be administered to establish the child's level of visual perception to which the work sheets apply. These areas are as follows:

1. Perception of position in space.
2. Perception of spatial relationships.
3. Perceptual constancy.
4. Visual-Motor coordination.
5. Figure-Ground perception.

A child who is handicapped in any of these areas of perception is handicapped in his academic development particularly in the development of his reading. Differentiating letters with the same form but diffenent position, such as "b" and "d" and recognizing the sequence of letters in a word depend upon the normal development of position in space and spatial relationships. Well directed eye movements are necessary for reading and these movements are a part of visual-motor coordination which is also necessary for writing. In order to recognize words in different colors or contexts, the child must have adequate perception of constancy of form. When a child is analyzing and synthesizing words, phrases, and sentences he must be able to distinguish figure from background.

The worksheets in the Frostig Program are sequenced from simple to difficult. The guide is detailed and easily followed. After preliminary training and monitoring by a teacher, an aide can handle the lessons with no more than four children. A readiness program which includes visual-motor coordination and visual discrimination is I Want to Learn published by Follett. The program consists of charts, an activity book and a teacher's guide. A variety of visual experiences is called for. Both the chart and activity book lessons can be directed by aides and paraprofessionals after initial direction by the teacher.

The Parkinson Program for Special Children, also published by Follett, provides a visual discrimination and spatial discrimination book for readiness activities. These books are designed as introductions to prereading skills for the child with specific learning disabilities. Their objective is to develop skills cognitively from a visual orientation. They present materials in a simplified form. They provide for flexibility in using the materials.

The Fitzhugh Plus Program provides a special marker which provides immediate correct or incorrect reinforcement. When the mark turns green the child goes on. When it does not turn green the child tries again. Book 101, Shape Matching, provides work in visual acuity, discrimination, and memory, left to right eye movement, image discrimination, matching, figure rotation, and size variation. Book 102, Shape Completion, provides work in visual-motor memory, fine muscle coordination, figure completion, and kinesthetic development.

The Continental Press has a reading readiness series containing two levels of visual discrimination. These levels are both carefully sequenced from the simple to the more complex. Level one provides practice in discriminating simple objects and designs. Differences in form, size, kind, internal detail and direction, or reversals, are treated. Level two contains materials for discriminating complicated designs, letter forms and activities for eliminating common letter and word confusions due to differences in detail and to reversal tendencies.

The Try experiences for young children provide visual perceptual experiences. They develop left to right and top to bottom progression. All three of the try tasks provide visual matching experiences on a simple to complex hierarchy. Task one matches geometric forms to an insert tray. Task two adds the visual problems of figure-ground and directionality. Task three provides for the matching of letters, both capitals and lower case.

All of these programs can be used with teachers and aides for visual perception and discrimination. Didactic materials, sequenced in the visual motor section can also be used continually as visual perceptual training. Often they can be used independently which makes them useful for quiet seatwork times.

OCULAR EVALUATION

Points to observe when checking ocular pursuit.

Observe:

I. Movement of the eyes when following the pencil.

  A. Lack of smoothness in eye movements.
  B. Jerky eye movements.
  C. Eye spasms.

II. How the eyes work together.

  A. Can eyes work together or does one jump off the target.
  B. Can eyes follow target simultaneously or does one eye do the leading and the other being pulled along.
  C. Does one eye seem to get ahead of the other.
  D. Can the child stay on target.
  E. Is there any change in child's performance when the pencil crosses the midline of the child's body.

OCULAR EXERCISES

LEVEL ONE (Testing)

LATERAL

Use an unsharpened lead pencil with an eraser. Push a thumb tack in the side of the eraser.

Hold the pencil upright in front of the child's eyes and approximately twenty inches from his face. Have the child focus his eyes on the head of the tack. Rotate the pencil approximately eighteen inches to his right, then laterally eighteen inches to his left. Move the pencil laterally following an arc so that the pencil is at a constant distance from the eyes. Instruct the child to hold his head still and follow the pencil with the eyes only. If he cannot follow the target without moving his head, place your hand on his head, preventing head movement.

VERTICAL

Hold the pencil sideways and move in a vertical direction until it is approximately eighteen inches above the child's eye level. Using the arc movement pull the pencil downward until it is eighteen inches below.

DIAGONAL

Begin with the pencil eighteen inches to the left of the center line and move it downward until it is eighteen inches below the line of vision. Move the pencil in a diagonal direction, following an arc of a circle to a like position in the upper right corner. Move the pencil in the opposite diagonal movement. Note the differences in the two performances.

The diagonal eye movements are the last to appear developmentally and are the most difficult for the child. Watch for the "stair - stepping" movement. The eyes move laterally until they lose the target, then vertically to catch up and laterally again. Be especially observant of this problem near the midline.

ROTARY

Circle the pencil directly in front of the child's face at a radius of approximately eighteen inches. (Clockwise and counter clockwise). Note the child's performance.

Normally in the development of ocular control in the young child, control of each eye occurs separately, then he integrates the two eyes and establishes binocular control. The teacher must be aware that it is essential that the child have the skill necessary for separate eye control, before binocular control each eye must be trained separately then both eyes together.

MONOCULAR

Cover the child's left eye. (A mask made of felt makes a good cover). Repeat the lateral, vertical, diagonal, and rotary exercises using the one eye only. Watch for same characteristics of eye movements as with binocular - except for the movements pertaining to the relationships between the two eyes. Cover the child's right eye and repeat the testing and evaluation as for the right eye.

LEVEL TWO

If the child is unable to do the task with a pencil, a penlight is substituted for the pencil, thus increasing the intensity of the visual stimulus. The same procedure is followed as described in Level 1. A dark room or closet is required for this activity. A small pen flashlight in which the bulb projects beyond the barrel of the light is most satisfactory for these exercises.

LEVEL THREE

If the child is unable to do the task described in Level 2, have him point to the penlight target with his finger and follow it simultaneously with his eyes. Use the same procedure as described in level one. This adds a kinesthetic clue to the visual clues. Kinesthetic stimulus correlated with visual stimulus adds in the development of ocular control.

LEVEL FOUR

If the child is unable to do task 3, the kinesthetic stimulus should be increased by having the child place his finger on the light and move his finger with the penlight as his eyes follow the moving light. Encourage him to offer some resistance to the movement of the penlight so as to further increase the kinesthetic and tactual stimulus.

LEVEL FIVE

If the task is still too difficult, using a large ball, the teacher places both hands, palms flat, on one side of the ball, while the child places both his hands on the opposite side of the ball. The teacher moves the ball, pulling the child's hands with him. The same procedure being used as described in stage 1. If after 4 or 5 attempts the child fails to show improvement, discontinue the exercise. The child should be referred for specialized help.

The teacher should test down until a level is reached at which the child can learn. If after four or five unsuccessful attempts on a particular movement the teacher should drop back a level. When the child can perform adequately on a level he should move up to the next one. Since some of the movements are more difficult than others, a child may be performing on level 1 on the lateral and vertical exercises but on level 2 or 3 on the diagonal exercises. The teacher should use the ocular exercise appropriate for the movement which is being trained. The objective should be training the child, as quickly as possible, to achieve at level 1 in all exercises.

Adapted from: The Slow Learner in the Classroom,
By Kephart, Newell C.
Charles E. Merrill Publishing Co.
Columbus, Ohio

VISUAL MINI LESSONS

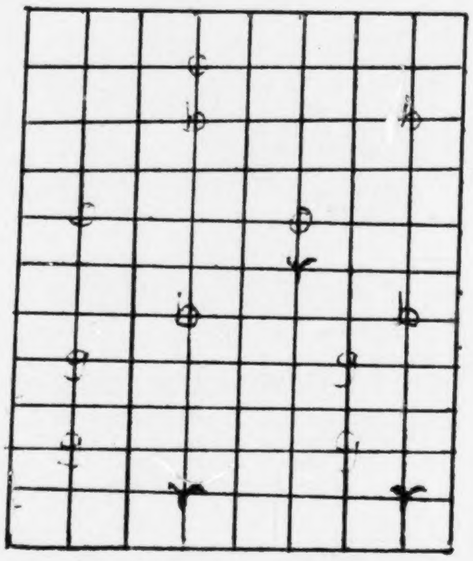
These Visual Mini Lessons are designed for not more than two children and an instructor. The instructor could be the parent, a vo volunteer aide, the teacher, or paraprofessional. To develop visual figure ground perception, visual discrimination.

Lesson I (Visual Figure Ground)

Materials:

1. Red, Blue, Orange, and Green crayons.
2. A 12" ruler.
3. One inch square graph paper prepared with colored dots which can be connected to form squares, triangles, and rectangles.

Place the prepared paper in front of each child. Direct the child to find three orange dots, four blue dots, four green dots, and then three red dots. Her is an example of the placement of dots on smaller sized graph paper.



Instead of dots, the beginning consonant of the color is in the place of the dot. Be certain that the places on the prepared sheet are indicated by colored dots. The dots should be exactly at the intersection of the lines.

When the dots have been found and counted by color sets, ask the children to trace between the dots with their fingers, from orange to orange to orange to form a triangle, from blue to blue to blue to blue to form a square, from red to red to red to form a triangle, and from green to green to green to green to make a rectangle.

After the children have traced these shapes a number of times with their fingers, they should pick up the colors, one at a time, to outline the shapes. The teacher should ask the following questions and give the following directions:

1. What shape will we make when we draw lines between the orange dots?

2. That's right, a triangle. Let's take our orange crayon and make the triangle.

3. What shape will we make when we draw lines between the blue dots?

4. That's right, a square. Let's take our blue crayon and make the square.

5. What shape will we make when we draw lines between the green dots?

6. That's right, a rectangle. Let's take our green crayon and make the rectangle.

7. What shape will we make when we draw lines between the red dots?

8. That's right, a triangle. Let's take our red crayon and make the triangle.

Be careful each time that the children have found the proper place on the page and trace the proper lines. If necessary, guide the child's hand. When all shapes have been outlined with color, the children can trace the shapes when the teacher directs:

1. Trace the blue square.

2. Trace the green rectangle.

3. Trace the orange triangle.

4. Trace the red triangle.

By closing with this tracing activity, the concept of figure against background is reinforced.

Lesson II (Visual discrimination - Figure Ground)

Materials:

1. Three red inch balls, three red inch blocks, three blue blocks, three safety pins, three paper clips, three small nails, three pins, three light blue pencils, three dark blue pencils.
2. Rectangle of blue construction paper.

Place a set containing one of each of the articles mentioned on construction paper in front of each child and the instructor. The instructor holds up her objects one at a time asking the children to find one just like it. When the children have identified each object from a visual stimulus, allow the children to take turns matching objects. For example, one child would pick up the three red blocks. The next child would pick up the three nails. This continues until all objects are in sets of three. The lesson is closed when the child has counted the total of their sets, touching each object as they count.

Lesson III (Visual Discrimination)

Materials:

1. Matching and contrasting 2" squares cut from wallpaper books.

Place a pile of squares in front of each child. Allow each child plenty of room. Then ask the children to spread out their squares and then place the ones together which are exactly alike. Stripes and small patterns are best. As the children are sorting, give them any help necessary. To close the lesson, each child should identify the colors and shapes he sees on each square.

Lesson IV

Materials:

1. Two simple, identical puzzles such as the DLM people puzzles.

Mix the two puzzles thoroughly. Place half in front of one child and half in front of the other. First ask the children to find any pieces in their own pile which are just alike and put them together. When this is done independently or with the teacher's help, the children match the pieces left over in each others piles. First one child holds up a piece and the other child finds a piece to match. This is repeated until all the pieces are matched.

Then the pairs are separated, giving one of each to each child. The instructor makes sure this new pile is moved away from the remaining pairs.

When the two puzzles are separated, the children put their puzzle together, tell the instructor what it is, and return to their seat.

BIBLIOGRAPHY

Buktenica, Norman A. *Visual Learning*. San Rafael, 1968.

Coffman, Alice O. *Sensory Experiences: Visual, Tactile, Auditory*. University City, 1968.

Fitzhugh, Kathleen and Loren Fitzhugh. *The Fitzhugh Plus Program*. Galien, 1969.

Frostig, Marianne and David Horne. *The Frostig Program for the Development of Visual Perception*. Chicago, 1964.

Verpas, Marie Traneine, ed. *I want to Learn*. Chicago, 1966

VISUAL MOTOR DEVELOPMENT

(Including Fine Motor and Pre-writing)

VISUAL-MOTOR DEVELOPMENT

Visual-motor coordination applies to the ability to coordinate the movements of the eyes with those of the body. In sports, the child may be concerned with eye-foot coordination when he kicks a ball. He may be concerned with eye-leg or eye-body as he avoids obstacles. In writing he is concerned with eye-hand coordination especially with the fine muscles which are involved in classroom manuscript. Sequences for visual-motor coordination on the gross motor level are included in the section on Motor Development. Much of the development of visual-fine motor coordination is for pre-writing activities. All didactic materials are primarily vehicles for developing eye-hand coordinating and pre-writing skills.

As the baby develops, he begins with the hand guiding the eye. For some children the next level never takes over, eye guiding hand, with precision unless specialized help is given. The instructor can move the child through exercises. The child's hands can be guided by templates, stencils, and groovy letters and numerals. Tracing paper can be used for taking the step from hand-eye to eye-hand. Beads, blocks, pegs, and parquetry can be used in sequences which become increasingly difficult. All these activities increase the possibility that the child can copy symbols with a minimum of effort and a maximum of efficiency.

Some specific teaching programs for developing eye-hand coordination (psychomotor coordination) are suggested in this section. Also, the Frostig Program, specifically the visual motor section, and the Dubnoff Program I, II, and III, can be used to develop eye-hand coordination. They are sequenced, becoming more and more difficult and include large amounts of practice in eye guiding hand through a detailed range of fine motor skills involving manual and finger dexterity and steadiness and psychomotor precision and speed.

RELATION BETWEEN MANIPULATIVE ACTIVITIES AND PSYCHOLOGICAL AND MOTOR FUNCTIONS

	Parquetry *	Block Designs	Peg Boards *	Sorting *	Matching	Seq. Patterns	Stencils-templates *	Cutting	Pasting	Coloring	Geometric Form Copying	Coding	Puzzles	Blocks *	Beads *										
Eye-hand Coordination	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
Seeing Pattern as a Whole	X	X	X					X			X	X	X	X	X										
Fine Muscle Development		X	X	X		X	X	X	X	X	X	X			X										
Establishing Handedness	X	X	X		X	X	X	X	X	X	X		X	X	X										
Concept of Spatial Relationships		X	X			X	X	X		X	X	X	X	X											
Depth Perception		X												X											
Left-to-Right Progression		X	X		X	X					X	X			X										
Organization of Approach to the Task		X	X	X	X	X			X	X		X	X												
Color Discrimination	X	X	X		X	X	X			X	X		X	X	X										
Form Discrimination	X		X		X		X	X	X	X	X		X	X	X										
Relation of Figure to Background	X	X	X		X		X			X			X	X											
Increased Attention Span	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
Limiting of Perseveration		X	X	X	X	X	X				X														
Temporal-Spatial Relationships	X	X	X							X			X	X											
Size Discrimination				X	X		X	X					X												
Classification				X	X	X								X	X										
Laterality			X				X	X																	
Directionality			X	X	X	X		X			X	X	X												

BEADS

Find a level on this sequence in which the child can be successful. Vary the activities to keep the child interested.

I. Random Stringing.

II. Following a pattern which is on another string.

III. Repeating a series which is begun on the string the child is using.

IV. Following a pattern which is written on a stimulus page using number words and color words.

V. Following a pattern which is written on a stimulus page using numerals and color words.

VI. Working equations using either red plus blue equals purple, red plus yellow equals orange, or blue plus yellow equals green.

Example: 1 + 3 = _________ or 2 + 2 = ________

VII. Working equations in the form of sentences using either red plus blue equals purple, red plus yellow equals orange, or blue plus yellow equals green.

Example: One plus three equals ________.

BLOCKS

I. Random Manipulation.

II. Following patterns published by the Developmental Learning Materials:

    A. Simple patterns.

    B. Patterns in perspective.

    C. Pre-writing patterns.

III. Following the configurations of common sight words, word on card with picture beside it, each letter within word a different color.

IV. Following written directions across the desk from left to right, stacking the blocks when the number is more than one.

PARQUETRY

I. Random Manipulation

II. Using Developmental Learning Materials

  A. Insert boards.

  B. Rectangular pattern sheets.

  C. Square patterns.

III. Following written directions using the words triangle, square, diamond and the number words and color words. (each lesson from II C on will end with the child placing the parquetry back in its box laying the shapes on the printed pattern).

PLASTIC GEOMETRIC FORM TEMPLATES

I. Tracing with finger.

II. Tracing with crayon on paper.

III. Tracing with chalk on chalkboard.

IV. Tracing with pencil on paper.

V. Copying a printed design with crayons left to right.

VI. Following written directions left to right using numerals and color words and pictures for the shapes.

VII. Following written directions left to right using number words, color words, and the words circle, triangle, square, diamond, and rectangle.

SORTING

Beginning with two sets of objects with obviously differing properties adding one new set at a time to increase difficulty).

I. Child uses classifications suggested by the teacher.

II. Child sets up his own classification and is encouraged to think of different ways to classify and to verbalize this classification.

III. Child uses tongs for manipulating.

IV. Child uses tweezers for manipulating.

V. Child uses objects to determine properties for sorting.

   A. Pail of water to check float or sink which are on word cards.

   B. Magnet to check thos which are held by the magnet and those which are not.

VI. Child uses cards to place the objects on, with words describing their properties such as color words, shape words, size words, texture words, or weight words.

SEQUENTIAL STEPS IN DEVELOPING SCISSORS CUTTING

Cutting exercises to develop cutting motion of the dominate hand and the holding motion of the other hand.

LEVEL I Cutting Exercises

1. Cut clay
2. Cut cotton

Level II Cutting exercises

1. Cut bits of paper at random
2. Snip paper straws
3. Fringe strips of paper
4. Cut across strips of paper

LEVEL III Cutting exercises

1. Cut a wide straight line (2 inches long)
2. Cut folded line
3. Cut comic strips

LEVEL IV Cutting exercises

1. Cut geometric shapes (Train the child to turn the paper with his holding hand, and to stop cutting before he turns his paper).
2. Cut snowflakes - should be directed.

LEVEL V Cutting exercises

1. Cutting curved lines (make short curved lines on paper for child to cut).
2. Cut circles (large at first, gradually decreasing size).
3. Cut out combinations of geometric shapes (simple , to complex).

LEVEL VI Cutting exercises

1. Cut easy figures - (use simple distinctly outlined figures).
2. Cutting and coloring activity sheets (teach child to color, cut, paste).
3. Cut more complex designs.

If the child cannot perform on Level I, then activities must provide to develop gross arm and hand coordination.

LEVEL I Manipulative Exercises to develop arm and hand coordination.
Initial arm-hand exercises.

1. Make believe swimming.
2. Waxing furniture or floor.
3. Mopping and sweeping floor.
4. Turning spigots on and off.
5. Jumping lines.
6. Punching a bag.
7. Stirring.
8. Opening bottles.
9. Kneading clay.

Intermediate arm-hand exercises.

1. Chalkboard exercises (see special bulletin).
2. Finger painting.
3. Tearing paper.
4. Squeeze paper, small rubber ball, sponge.
5. Stuff cardboard into envelopes.
6. Screw lids on jars.
7. Twist pipe cleaners around pencils.
8. Finger games.
9. Open clothespin and put on top of can.
10. Clay activities.
11. String beads.
12. Throw and catch ball.

Advanced Exercises

1. Various directed paper folding activities.
2. Card lacing.
3. Shoe tying (have shoes in front of child).
4. Tying activities.
5. Use building toys such as tinkertoys and building toys.

SEQUENTIAL STEPS TO PRE-WRITING

I. FINGER MANIPULATION

A. Lacing
B. Sorting
C. Pegs
D. Grasping
E. Beads
F. Blocks
G. Parquetry
H. Cutting

II. SCRIBBLING

Random drawing on paper or chalkboard using preferred hand. He is told to scribble, to make any sort of lines on the board or paper which he would like to make.

III. DOT TO DOT - Straight lines.

Teacher stands at the chalkboard with child beside her. First, the teacher places a dot at random on the board. Next, child places his chalk on the dot. Then, teacher places another dot at random on the board and the child draws from the first to the second dot. The teacher then makes another dot and, without lifting his chalk from the board, the child draws from the second dot to the third. The game is continued in this manner, the teacher always waiting until the child has drawn his line before placing the next dot. The purpose of this technique is to aid the child in establishing and maintaining directionality and changes of direction. Some children may have difficulty with this activity; therefore, use shorter lines. Shorter distances do not require the child to maintain his directionality for so long a period.

IV. MONO-MANUAL CIRCLES

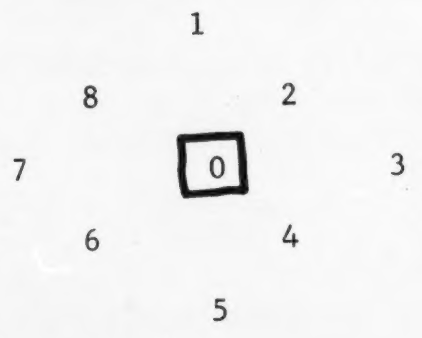
First ask the child to step up to the chalkboard and place his nose against the surface of the board. His nose will in turn make a spot on the board. (Be sure that the child is not standing on his tiptoes, but that his feet are flat on the floor). Next, have the child step backwards away from the board, about 18 inches. The teacher or the child may then place a small "X" on the spot. Allow the child to use his preferred hand. In this activity, we would like to see a circle eighteen to twenty-four inches in diameter. It may be necessary in some cases for the examiner to demonstrate the size by drawing a circle of the desired size himself. Have the child watch his hand as he draws his circle. The circle should be drawn in a counterclockwise direction if the child uses the right hand, and a clockwise direction if he uses the left at first. Then the child reverses his direction. After the child has made the circle with his preferred hand, have him to draw the circle with his other hand. The teacher may need to guide the child as he makes his circle at the beginning in order that the child is able to have control movements of his fingers. Be sure and watch how the child holds his piece of chalk. If the child is unable to hold the chalk correctly he will need to be shown immediately. If he is unable to hold the chalk correctly, this child will need to have much practice in various finger manipulation activities, so that he may develop this fine motor skill adequately.

V. BI-MANUAL STRAIGHT LINES

The child holds a piece of chalk in each hand and moves both hands at the same time in various patterns of movement on the following diagram. Bi-Manual chalk lines are made by the child to connect 7 and 3 with the "bullseye." $\boxed{0}$; then 1, 5 and the center spot $\boxed{0}$, etc. The numbers should be placed far enough apart on the board so your child can reach them with full arm extension while standing approximately twelve or fourteen inches in front of the board. All other outside dots are placed to complete a spoke pattern, which requires the same arm extension by your child. His movements of hands are from outside dots to central spot, and back again from the bullseye to dots in all possible variations of direction. There is a developmental sequence here also, which should be followed.

A. Opposed movement toward center directions:

The right hand draws a chalk line from 3 to the center $\boxed{0}$, and left hand draws from 7 to center $\boxed{0}$. Thus, hands are both moving at the same time from outside dots to center dot $\boxed{0}$. Refer to Clock Game Chart 1 (a) for patterns. This activity can be simplified for the child who does not recognize numerals by making the clock out of colored stickers, animals or some other recognizable form.



Letters of the alphabet may be substituted for the numerals. For children unable to recognize numerals or letters, colored circle or animal stickers can be used.

B. Opposed movement away from center directions:

Both chalks are placed on the center $\boxed{0}$. The right hand draws a chalk line from center $\boxed{0}$ to 3 while left draws from center $\boxed{0}$ to 7. Again hands are to be kept in bilateral movement. Refer to Clock Game Chart 1 (b) for patterns.

C. Parallel movement directions:

The right hand draws a chalk line from the center $\boxed{0}$ to 3 while the left hand is drawing from 7 to center $\boxed{0}$. Have your child reverse the directions of his hand movements so the right draws from 3 to center $\boxed{0}$, and left from center $\boxed{0}$ to 7. Refer to Clock Game Chart 2 for patterns.

D. Center movement toward and away directions:

Have your child use dot 7, dot 1 and the center $\boxed{0}$, as starting point or destination in the varieties described above. For example: right hand draws from 1 to center $\boxed{0}$ while the left hand draws from 7 to center $\boxed{0}$, etc. Have your child reverse the directions of his hand movements so the right draws from center $\boxed{0}$ to 1, while the left hand draws from center $\boxed{0}$ to 7. This gives your child an opportunity to combine horizontal and vertical movements of arms while drawing the lines. Refer to Clock Game Chart 3 (2) and 3 (b) for patterns.

E. Left to Right, Right to Left movement directions:

Have your child use dot 7, dot 1, and the center dot $\boxed{0}$, as starting point or destination in the varieties described above. For example: right hand draws from center $\boxed{0}$ to 1 while the left hand draws from 7 to center $\boxed{0}$. Have your child reverse the directions of his hand movements so the right draws from 1 to center $\boxed{0}$ while the left hand draws from $\boxed{0}$ to 7. Refer to Clock Game Chart 4 (a) and (b) for patterns.

It is important that your child strive to keep his arm and hand movements coordinated so both hands reach their destination at the same time. This develops freedom of movement and kinesthetic (muscle feeling) awareness of arm and hand positions.

VI. BI-MANUAL CIRCLES

A. Right hand moving clockwise while left moves counterclockwise.

B. Left moves clockwise and the right moves in the counter direction.

C. Both moving clockwise.

D. Both moving counterclockwise.

This is in no manner intended to influence "dominancy" or "preference" of a hand, but to get all possible control of each hand and to emphasize each in the bilateral relationships. Use and development of both hands in basic guidance routines is a prerequisite for any of the more discrete or distinct skills which lead to writing and refined manipulative actions.

VII BI-MANUAL CURVED LINES

Teacher draws a continuous line on the board in the shape of a figure 8 lying on its side (∞) (approximately twenty-four inches wide and approximately ten inches high). Have him to trace over and over this figure with one continuous line and without taking his chalk from the board. When he has mastered this task, ask him to reverse directions without removing his chalk from the board or interrupting the activity. (Begin reversal movement at bottom).

A. Ask the child to trace this figure (∞) in both directions with the right hand and both directions with his left hand.

B. Ask the child to stand so that the entire figure (∞) is to the right of the center of his body and so that the entire figure is to the left of his body. Also, ask the child to stand so that the center of his body is directly in front of the crossing point between the two loops (∞).

VIII TRACING ACTIVITIES

A. Use onion skin paper. Child uses large crayon, large pencil or magic marker.

1. Templates
2. Stencils
3. D.L.M. Tracing Paper Designs
4. Try Kit Language Activities
5. Dubnoff Material

B. Copying design free hand instead of tracing.

C. Child studies designs, covers designs and child draws designs from memory.

D. D.L.M. Pre-writing design card-

1. Chalkboard practice - using large strokes.
2. Color code paper beginning with 1 inch lines.
3. Color code paper using ½ inch lines.
4. Color code paper using ¼ inch lines.
5. Use ¼ inch lines with black lines (magic marker) on white paper.
6. Use tablet or primary writing paper.

PRE-WRITING EXERCISE

Mini Writing Lesson for DLM Design Cards and Blocks -

1. Examine and discuss writing plate - (note colored lines, placement of blocks, spaces between groups of blocks).
2. Explain that words make a design or shape of their own. Look at green block. Ask if child knows a word that might "fit the shape." ("I" is correct). If he can't think of one, suggest "I." Uncover "I" on written page.
3. Discuss shapes of "am", "a", "boy" - letting child guess what word might be .
4. Have child place blocks on card to make shape of word. (2 times)
5. Remove blocks and have him place blocks on blank card to form word. First with pattern above card - next from memory.
6. When he can do this from memory, have him trace letters with fingers. First verbalizing each step, i.e., "I start on the red line, and come straight down past first green line and stop on green line." (MUST VERBALIZE FIRST THEN TRACE WITH FINGER), verbalizing as he traces - do same with each letter.
7. Using a sheet of paper with just one set of lines, and having pattern in front of child, have child verbalize what he is going to do - (where he will start and where he stops) - then he may write the sentence.

CLAY TRAY

The clay tray can be used for eye-hand coordination, improving finger-wrist manipulation, and reading reinforcement. The tray can be easily constructed by using a foil tray and a half inch layer of clay. The clay may be softened by placing the tray in the sun, over a register.

I. HAND -THUMB AND FINGER EXERCISES - to develop controlled, sustained movements of individual finger and thumbs of each hand.

A. With fingers together, place finger tips into the clay. Stretch the thumb as far as possible, down and away from the fingers, into the clay. To cut resistance, make little tracks in the clay from the thumb to each finger. Ask the child to follow the track with his thumb to the first finger, keeping the thumb in the clay at all times. Then continue the exercise by following each track up to each finger and back.

B. When the child can do this, remove the tracks and spread the fingers apart. Press child's finger tips into the clay and have him hold his fingers in this position. Ask the child to stretch his thumb as far away from the fingers as possible. Then the child should push the clay with the thumb up to each finger. Then the child should push the clay away from each finger, then combine pushing the thumb away with pulling in toward the finger.

C. Spread the four fingers apart and push them into the clay. Make two dots in the clay, one directly below the index finger and the other directly below the little finger. The child should stretch his thumb along in the clay from one dot to the other.

D. Keep the fingers together, thumb up, and place the finger tips at the tray's edge furthest from the child's body. Have the child pull his fingers down across the clay. Do as unilateral and bilateral task.

E. Keep the fingers together, thumb up, place the tips at the tray's edge, closest to the child's body. Have the child push up to the top of the tray and across the tray. (Vary all these activities with diagonal and horizontal lines).

F. Using index finger trace from dot-to-dot through the day forming letters and numerals.

SEQUENCE FOR TYING SHOES

The ability of a child to tie his own shoes represents two major growth levels. In the first place the tying of a bow knot reflects or demonstrates good eye-hand coordination and that the child can cope with difficult necessary space tasks. In the second place the ability to tie reflects independence and self assurance. His visual-motor capability is optimal for symbolic language acquirement. The ability to tie his shoes is very important to a first grader. This is a mini-lesson for one child and an adult.

Instructor should note child's handedness. Instructor should place child on floor beside him, to the instructor's right if the child is right handed and if the child is left handed, place him in front of you. Both instructor and child should face front shoe. Do not place child facing opposite instructor if the child is right handed. It is advisable to use child's own shoe if possible. Instructor and child will work together on one shoe only. The shoe of course will be unoccupied. Instructor will explain and demonstrate how to tie a shoe with the child. The sequential steps are as follows:

Step 1	Instructor crosses laces.
Step 2	Instructor makes first loop.
Step 3	Instructor places lace over loop and finger.
Step 4	Instructor pushes lace through hole.
Step 5	Instructor pulls lace through hole.
Step 6	Instructor grasps both loops and pull tight simultaneously.
	When the Instructor begins training the child he reverses the steps.
Step 6	Child grasps both loops and pull tight simultaneously. (Do this step until the child is comfortable).
Step 5	Child pulls lace through hole. (Do this step until the child is comfortable doing this task). Do steps 5 & 6
Step 4	Child pushes lace through hole. (Do this step until the child is comfortable doing this task. If child continues to have trouble - drop back to step 5). Do steps 4, 5, and 6.

Step 3 Child places lace over loop and index finger and thumb. (Do this step until the child is comfortable doing this task. If child continues to have trouble - drop back to step 4). Do steps 3, 4, 5, & 6.

Step 2 Child makes first loop. (Remember - Instructor knows if child is right or left handed. Do this step until the child is comfortable doing this task. If child continues to have trouble - drop back to step 3 and repeat step 3. Do steps 2, 3, 4, 5, & 6.

Step 1 Child crosses laces. (Do this step until the child is comfortable doing this task. If child continues to have trouble - drop back to step 2 and repeat step 2). Do steps 1, 2, 3, 4, 5, & 6).

Encourage child to practice tying the unoccupied shoe until the child is comfortable and wants to put his own shoes on and tie them all by himself.

MINI LESSONS

The following are mini-lessons in which teacher's, aides, or parents can take the role of the instructor to help the child improve his psychomotor coordination in the fine motor area. They should never be used with more than two children.

Lesson 1

Materials:

1. Pegboard for each child and instructor
2. Pegs - red, blue, green, yellow, orange, purple.

Place a child on each side of the instructor so that her right is their right and her left is their left. Each child and the instructor has a pegboard and a pile of pegs. The instructor begins by asking the children what color says go. If the children know, praise them, if not tell them and then ask them to pick up a peg that is green. Then ask if they can put the green peg in the hole on the pegboard which shows where they start when they read. If they can do it, praise them, if not help them put the green peg in the top left hand hole. Then ask again what the green says to do. When they seem to know that green says go, ask them to find the color that says stop. Help them to place a red peg in the top right hand hole. Then ask again what red tells them to do. Then pointing to the green on the left side of the first row the child should fill in with blue pegs from left to right until the red says to stop.

This procedure should be repeated for each row and when all ten rows are completed, the children should take turns moving down their pegboards from left to right repeating the words as they follow the pattern - left to right, left to right, etc. This closes the lesson.

Lesson 2

Materials:

1. Tweezers
2. Colored popcorn
3. 2 Plastic bottles with small openings

Place tweezers, a bottle and a stack of popcorn in front of each child. Demonstrate the way to pick up a piece of popcorn with tweezers. Then begin the following directions. The numbers can vary.

1. Pick up a set of 5 yellow kernels one at a time and put them in the bottle. Count each kernel as you put it in.

2. Pick up a set of 4 green kernels one at a time and put them in the bottle. Count each kernel as you put it in.

3. Pick up a set of 3 blue kernels one at a time and put them in the bottle. Count each kernel as you put it in.

4. Pick up a set of 6 green kernels one at a time and put them in the bottle. Count each kernel as you put it in.

5. Pick up a set of 10 red kernels one at a time and put them in the bottle. Count each kernel as you put it in.

6. Pick up a set of 6 blue kernels one at a time and put them in the bottle. Count each kernel as you put it in.

When the instructor completes these directions, she instructs the children to pour all the popcorn into a little pile and count each one moving them to another pile as he does so. When the two children have counted their piles and compared their totals, they separate the popcorn into sets according to color and then count the sets, touching each kernel as they do so. When these totals are compared the lesson can be closed.

Lesson 3

Materials:

1. Round wooden beads, red, yellow, blue, green, purple, orange.

2. Round shoe laces.

3. Newsprint cut into long strips 24" x 3" approximately

4. Crayons, red, yellow, blue, green, purple, orange.

Place beads, newsprint, and crayons in front of each child. Show the children how to string the beads. Then begin giving the children two part auditory directions.

1. String three green beads and three red beads.

2. String two orange beads and two blue beads.

3. String one yellow bead and one purple bead.

4. String one red bead and one green bead.

5. String two orange beads and two blue beads.

6. String three yellow beads and three purple beads.

7. Lay your string of beads above your paper with the three green beads on the left.

8. Draw a picture of your string of beads. Travel across the paper from left to right. Be sure you use the right color. Be sure you make the right number.

To close the lesson ask the children in turn to count with you. First count the crayon drawing then the string of beads to see that they are equivalent. When they have seen that they are or are not correct, they correct their errors and return to their seat.

BIBLIOGRAPHY

McQuaine, Charles W. and Theatus Woodham. Kindergarten Parent's Manual. Winter Haven, 1968.

AUDITORY DEVELOPMENT

AUDITORY DEVELOPMENT

The ear is always ar work. The auditory channel is never closed. Even asleep, the ears can awaken for danger or distress. We close our eyes and the visual world is closed. Even with the eyes open a child is unaware of the visual world in any plane he is not immediately facing. This is not true though of the ears. They always remain open, finding important auditory stimuli whether they are above, behind, to the side, or below.

The sensory mechanism responsible for receiving the myriad of auditory stimuli can be in perfect order and yet the child cannot "hear." He has either skipped over or lost some stage in the developmental process or his perception of sound has been impaired in some other way.

Children receive sound from birth and then the infant slowly begins to recognize, identify and localize sound. The newborn infant responds to loud noises by crying or startling. By two weeks he seems to listen to the sound of the human voice. By four weeks, he is quieted by sound and his activity is reduced by an approaching sound. By eight weeks, he is no longer violently disturbed by loud noises, but accepts them as part of his environment, and attends to, stops, or changes activity in response to the human voice. By four months, there is a blink, a smile, or some response to the sound of bells, and deliberate head turning in search of sounds or voices. Learning these aspects of sound, who or what made it and where it was made begins to give the infant a stable auditory view of his world.

As this reception of auditory stimuli develops, language reception and expression develop. To humans, real hearing means the ability to hear and interpret language. To the infant wolf human language would be of no importance. To him differentiating the sounds of the forest and plain would be his primary auditory maturing. To the mother and teacher, watching the human child develop auditorily is nearly synonymous to watching his language develop.

In general he seems to understand a word or concept and then a bit later is able to say it -- reception preceeds expression.

By his first birthday, the child can stop when told no and follow some very simple commands.

By two years of age, the child can select the common object named from a group of objects or pictures of objects. The child has begun to store a catalogue of associations.

By two and a half years, the child begins to identify objects by their use as well as by their name. He can understand show me the one you use to comb your hair, the one you drink, the one that goes on your foot, the one you use to drink cocoa. He can identify action.

By three, color-names are understood, and adjectives such as big and little may be contrasted. Simple commands involving space (on, between, in front of, behind) are carried out successfully. The child can respond to give me the one that runs the fastest, that is the biggest, that you eat.

Correlative to the language development are auditory perception, memory, and discrimination abilities. Reaction to auditory stimuli which began at birth continues with more and more subtlety.

By three and one-half, a child can discriminate many noisemakers without error (Spencer, 1958). By four, he can match soundblocks by loudness, and by four and one-half, he can grade soundblocks in order from softest to loudest (Haeussermann, 1958). A sense of rhythm begins to show in two-and-one-half to three-year-olds, and by four and one-half to five, children can clap in rhythm to a song or the beat of a drum. The ability to imitate a melody does not appear until well into the fourth year, but by six, the child is capable of remembering dittys and tunes and can reproduce melodies and scales on request (Spencer, 1958).

The child's ability to store digits and repeat them also expands. A child can repeat two digits at two years, three digits at three years, and four digits at four. Seven digits seems to be the limit even for adults.

In order to function auditorily in a traditional classroom, a child must be developed at six to the extent that he can:

1. Listen up to 2½ hours per day.
2. Discriminate and focus on the teacher's voice in a room full of many other noises.
3. Localize sound in many different places as the teacher moves.
4. Follow directions given in ones, twos and threes.
5. Memorize rules given orally by the teacher.
6. Learn auditory signals such as fire bell, and tardy bell.
7. Understand all of the nouns, verbs, adjectives, and function words the teacher uses in her teaching.
8. Distinguish all vowel and consonant sound no matter how subtle the difference and no matter what context.
9. Be able to synthesize sounds isolated in time.
10. Have the acuity to hear high and low tones, and loud and soft sounds.

The teacher cannot be certain that all the children in any first grade room are able to do the things just mentioned which they are expected to do. Earlier it was stated that a child can receive sound but not "hear." This child may have auditory agnosia.

The children with auditory agnosia may react in one of two ways to their incomprehensible sound world: They may ignore it entirely and function as if they were unable to hear; or they may respond to each sound as a new experience requiring investigation and attention. This second group of children appears hyperactive and distractible to the observer; they appear to have a very limited concentration span and their attention is constantly being diverted by sounds in the environment.

The child with a disorder in the processing of auditory information must race to the door to find out what is making that noise before he can continue with the task at hand. As each auditory stimulus presents itself he must tract it down, for he has not been able to store its associations in his brain. An auditory disorder is not the explanation for all types of hyperactive, distractible behavior, but it may explain the activity of some children who do appear so distracted and unable to ignore what to others are irrelevant background sounds.

Some children seem to have some of the characteristics of auditory agnosia but the symptons are not quite as severe. They can perhaps hear gross differences in sound but not fine. Or perhaps they cannot process a sequence of auditory events. Or perhaps they cannot associate the known sound with a visual symbol. A child can be an aphasic in one area, such as his inability to understand concrete words, abstract words, words implying relationship. Some can understand single words but are unable to take in more than single words, phrases or sentences. Some can understand single sentences or directions but multiple sentences or directions are impossible.

With a breakdown in any of the auditory skills, discrimination, sequentializing, memory, and comprehension, there may be a breakdown in a primary school activity, reading. Many children who do have reading difficulties, classified as dyslexia, have deficits in auditory perception, memory, or integration. Deficits in these areas can make word analysis or synthesis difficult. This auditory deficit can affect the overall classroom attention and performance as well as reading.

Behavior evidenced by a child which may suggest a breakdown in the auditory channel and lead to further testing to pinpoint the difficulty:

1. Straining to hear.
2. Extra loud voice.
3. Over reaction to any and all auditory stimulation.
4. No response to soft sounds.

5. Scattered response - seems to hear some sounds and not others.
6. Inability to follow oral directions.
7. Inability to provide rhyming words.
8. Inability to learn the alphabet by name or sound.
9. Miscalling words by substituting incorrect vowels or consonants.
10. Inability to synthesize words.
11. Inability to analyze words.

When these tests have been given it is possible to write a specific program using the child's strength to teach to his weakness.

As the teacher looks at whichever readiness test is available to her she can look at the subtests which are particularly indicative of a possible auditory deficit. These areas are listed in the chapter on testing.

So much of a child's time in the traditional classroom is spent in listening, an informal following directions test was devised to cover commonly used concrete words, spatial words, and words implying relationships. Also a test has been devised which tests the child's ability to respond to increasingly difficult auditory stimuli.

When the teacher has the results of a child's informal and formal diagnosis in front of her she can begin development in a child's deficient areas. The areas in which a deficiency may be found and the developmental techniques are as follows. The following abreviated auditory sequence can be used in setting up lessons for the child with auditory deficiencies. The problem would be identified, the place on the sequence found, and lessons begun which would develop auditory perception.

AUDITORY RECEPTION (DECODING) PRE UNDERSTANDING

1. Receives gross auditory stimulus.
2. Can shift to the important auditory stimulus above a background sound.
3. Can hear likenesses and differences in gross sounds.
4. Can hear likenesses and differences in phonemes.
5. Can hear likenesses and differences in words. toy jump book - look
6. Can identify words with the smae initial consonant as same or different.
7. Can identify words with the same final consonant as same or different.
8. Can identify words with the same medial vowel as same or different.
9. Can identify rhyming words as same or different.

AUDITORY RECEPTION (DECODING) UNDERSTANDING

1. Can identify common sounds, train - bell.
2. Can follow simple one part directions.
3. Can follow simple two part directions.
4. Can identify objects from verbal descriptions.
5. Can identify nonsense:
    a. of syntax.
    b. of concept.
6. Can answer one concept questions with yes or no.

AUDITORY ASSOCIATION (adding vocalization to understanding) EXPRESSION

1. Can identify nonsense and express why it is nonsense.
2. Can answer one concept questions with short answers.
3. Can supply words to complete simple analogies:
   Fire is hot; ice cream is _____.
4. Can supply a rhyming word.

5. Can supply matching word which has same initial consonant.
6. Can supply matching word which has same final consonant.
7. Can supply matching word which has the same vowel sound.
8. Can verbally explain why two words are alike or different.
    - a. book look
    - b. mouse moon
    - c. gum tam
    - d. shoes socks
    - e. water milk

AUDITORY SEQUENCING (vocalization of auditory sequence)

1. Can repeat letters, numbers, and words in sequence.
2. Can follow instructions in sequence.
3. Can supply a meaningful word to the end of an interrupted sequence.

a. rhyming	go blow - (so)
b. initial consonant	me mouse - (moon)
c. final consonant	doll will - (bell)
d. animals	bear fox - (lion)
e. birds	eagle robin ( ) etc.

AUDITORY SKILLS TEST

INITIAL SCREENING

(Teacher Made)

1. Receives gross stimulus
   Student stands on certain square tile, teacher drops a box of rhythm sticks behind him - observe child's response.

2. Selects source of sounds
   Teacher stand behind a screen and sounds rhythmic instrument, child tells the name of the instrument or selects the correct instrument from a panel in front of the teacher.

3. Follows rhythmic pattern with clapping hands.
   Teacher claps various rhythmic patterns and child responds.

4. Follows single directions
   Teacher gives a verbal direct such as:
   a. stand on one foot.
   b. jump 2 times.
   c. cough twice or two times.
   d. pull your ear 3 times.
   e. move book to the other end of the table.

5. Discriminate loud, soft, high and low sounds
   Teacher uses piano or pitch pipe to make sound child is to recognize.

6. Follows rhythmic pattern marching
   Teacher observes child's rhythm pattern (uses piano or marching record)
   Record used: RCA Victor 45 RPM Album, Rhythm Vol. I

7. Follows two-part direction
   Teacher gives verbal direction such as:
   a. draw a circle on the board then go sit in a chair.
   b. touch your nose then turn around once.
   c. touch head - clap hands once.

8. Discriminates common sounds or patterns
   Teacher uses primary records for common sounds and environmental sounds (Record from Peabody Language Development Kit - Primary Level)

9. Follows a series of three directions
   Teacher gives verbal directions such as:
   a. Make a sound like a dog, touch your knee and slap your ankle.
   b. Point to your desk, look at the clock and wave at me.
   c. Put your hands below your desk, on top of your desk and behind your desk.

For each activity used to check the child's auditory skills, the teacher developed activities to give the child practice in these areas. For example the following exercises were developed by the teacher for understanding single direction skills.

Record: RCA Victor 45 RPM album Rhythm Vol. I
Record: Peabody Language Development Kit
Primary record was used for common sounds, enviromental sounds

Instructions:
One direction
1. stand on one foot.
2. shake hands with neighbor.
3. walk across stage.
4. jump 1 time.
5. " 2 times.
6. " 3 " .
7. " 4 " .
8. " 5 " .
9. make 2 X's on board.
10. tell name of favorite animal.
11. move book to other end of table.
12. walk around chair 2 times.
13. sharpen pencil.
14. touch your ties 3 times.
15. touch the door.
16. pull your ear 3 times.
17. put on earrings.
18. erase board.
19. clap hands 4 times.
20. bounce ball twice.
21. wink eye three times.
22. cough twice.
23. walk 2 steps.
24. hop three times.
25. stretch high.
26. bend low.
27. pretend you are swimming.
28. knock twice on floor.
29. raise both hands.
30. gallop like a horse to the door.
31. hold the eraser next to the flag.

10. Responds to certain key words and supplies words omitted from a familiar story.
Teacher used Peabody Language Development Kit Level I
She used Goldilocks and Three Billy Goats Gruff from the Six Fairy Tales Tape.
Example: Every morning the 3 bears would get up and eat ________.
Then act out.

11. Gives attention
Observed how they came to attention - attention shown to task.

A DIAGNOSTIC TOOL FOR THE RECOGNITION OF PERCEPTUAL DEFICIT IN THE AUDITORY AREAS

Prepared by Pat Clinger

I. AUDITORY ACUITY

This is a generalized sub-test constructed to determine if the child's hearing organs are functioning within the normal range. If the child fails this sub-test (falls below the six foot level in one or more positions) then the test should be terminated and a referral should be made to an audiologist.

A. Position the child: feet together, body erect and eyes fixed on a spot about three feet above the floor. When the teacher is testing the frontal hearing acuity, a small red circle may be pinned to her waist so that the child's eyes may fixate on this point. Measure and mark lines in front, back and two sides of the child's position. These lines should be a 2 foot intervals starting at 2 and ending at 14.

B. The teacher should stand on each evel mark, starting with the 2 foot mark, and say to the child, "I am going to whisper some words, let's see if you can tell me what words I am whispering."

	FRONT		BACK
Level 1	Whisper .. "book"	Level 1	Whisper .. "shoe"
Level 2	Whisper .. "Car"	Level 2	Whisper .. "hat"
Level 3	Whisper .. "dog"	Level 3	Whisper .. "cup"
Level 4	Whisper .. "run"	Level 4	Whisper .. "chair"
Level 5	Whisper .. "bug"	Level 5	Whisper .. "jump"
Level 6	Whisper .. "man"	Level 6	Whisper .. "hair"
Level 7	Whisper .. "doll"	Level 7	Whisper .. "dish"

	RIGHT SIDE		LEFT SIDE
Level 1	Whisper .. "pin"	Level 1	Whisper .. "mouse"
Level 2	Whisper .. "jug"	Level 2	Whisper .. "lake"
Level 3	Whisper .. "can"	Level 3	Whisper .. "star"
Level 4	Whisper .. "bug"	Level 4	Whisper .. "ship"
Level 5	Whisper .. "fork"	Level 5	Whisper .. "needle"
Level 6	Whisper .. "nose"	Level 6	Whisper .. "barn"
Level 7	Whisper .. "soup"	Level 7	Whisper .. "house"

(When a child fails to repeat the word correctly, mark that level on the score sheet and progress to another position).

II. AUDITORY DISCRIMINATION (On Tape)

A. PITCH

Ask child to listen to the notes and tell you which note is higher. A pair of notes will be played and then repeated in five seconds.

Level 1. C above high C and C two octaves below Middle C.
Level 2. C an octave below Middle C and C an octave above Middle C.
Level 3. E above Middle C and A below Middle C.
Level 4. D above Middle C and Middle C.

B. VOLUME

Ask the child to listen to the tape and tell you which sounds are louder. (Be sure child understands the concept of loud, louder, soft and softer).

Level 1. Very loud piano music .. and very soft piano music.
Level 2. Moderately soft orchestra music and .. moderately loud orchestra music.
Level 3. Very soft piano music .. and .. slightly louder music.
Level 4. Voice speaking loudly .. voice whispering.
Level 5. Voice speaking softly .. voice speaking loudly.
Level 6. Voice whispering .. voice in normal volume.
Level 7. Voice slightly raised .. normal voice.

C. LETTER SOUNDS

Ask the child to listen to the first sound in each series and after the second sound is played decide if it is the same as the first sound or different than the first sound.

Level 1. "p", "m"
Level 2. "c", "c"
Level 3. "b", "t"
Level 4. "s", "z"
Level 5. "p", "b"

D. BEGINNING CONSONANTS

Ask the child to listen and tell which word starts with the sound which is designated at the first of each series.

Level 1. "b" ..... ball, cat
Level 2. "s" ..... man, see
Level 3. "t" ..... dog, tail
Level 4. "m" ..... money, no
Level 5. "p" ..... ball, pet, bell

E. PLACEMENT OF SOUNDS WITHIN A WORD

Ask the child to listen to the sound and try to discover where that sound is placed in the word, front, middle or back.

Level 1. "c" .... car
Level 2. "p" .... jump
Level 3. "z" .... zippers
Level 4. "b" .... cabbage

III. AUDITORY MEMORY

A. Material needed: Buzzer Board. Let the child experiment with the buzzer board, then say, "I'll buzz a pattern and then you play the pattern back to me."

Buzz the following pattern:

Level 1.	..
Level 2.	--
Level 3.	-.
Level 4.	.-
Level 5.	..-
Level 6.	-..
Level 7.	.-.
Level 8.	...-
Level 9.	-...-

B. WORD SEQUENCING

Ask the child to listen to the group of words and repeat them. (Level A are related words. Level B are unrelated).

Level A1.	hat, coat, shirt
Level A2.	horse, cow, pig, barn
Level A3.	thread, needle, pin, scissors, thimble
Level A4.	bread, butter, jelly, salt, pepper, sugar
Level B1.	car, catsup, piano
Level B2.	shoe, dog, flower, street
Level B3.	corn, toe, belt, light, dress
Level B4.	milk, nail, box, bed, gag, food

C. SENTENCE REPETITION

Care should be taken to note and record any definite patterns of attending, i.e., does the child start attending only on the second word ot each sentence?

Ask the child to repeat the sentence after you.

Level 1. The boy ran.
Level 2. The girl ran fast.
Level 3. The little dog ran down the street.
Level 4. The little boy in the blue hat waved at me.
Level 5. The big brown dog barked and then chased the squirrel up the tree.

IV. AUDITORY FIGURE-GROUND (On Tape)

This test is to be used to determine if the child can pull the human voice from a background of different stimuli of varying frequency. Ask the child to listen to the tape and see if he can tell what Nursery Rhyme is being repeated.

Level 1. Background - Orchestra ... Nursery Rhyme "Mary had a little Lamb."
Level 2. Background - Bell and Buzzer ... Nursery Rhyme "Jack be Nimble."
Level 3. Background - Typewriter ... Nursery Rhyme "1, 2, Buckle My Shoe."
Level 4. Background - Voices talking ... Nursery Rhyme "Twinkle, Twinkle."

V. SENTENCE COMPREHENSION

Material needed: box of miniature toys. (deer, shoe, ring, race car rabbit, marble, jet plane, missle rocket).

Ask the child to listen to your instructions and do what they say.

Level 1. Pick up the airplane and hold it over your head.
Level 2. Pick up the ring, put it on your finger and then put the marble in your other hand.
Level 3. Pick up the rabbit, the deer and the car, place them in a straight line.
Level 4. Put the shoe by the deer, the marble by the rocket and then pick up the airplane and rabbit and hold them behind your back.

Teaching Resources from The New York Times has developed a program for auditory training. It is called Auditory Discrimination in Depth and is designed for preschool, kindergarten, and beginning readers in the early part of the sequence.

The program develops in children:

1. An understanding of the basic concepts of the sound structure of our language.

2. The ability to discriminate likenesses and differences between speech sounds (phonemes), individually and in sequences.

3. Perception of the order of sounds in sequences and the shifts and changes of sounds within patterns (syllables and words).

4. Judgment of the correspondence between oral (spoken) patterns and the graphic symbol (written) patterns which are used to represent them.

This program has been used with success with small groups.

A device from Developmental Learning Materials known as the Tok-Back amplifies the child's own speech and allows him to hear through air conduction rather than bone conduction. This device can be used during the lessons in A.D. D. and in other auditory training lessons. It permits continuous reappraisal and correction of articulation, intonation, and accent. It helps to heighten concentration, and reinforces desired speech patterns. Developmental Learning Materials has developed a series of drill tapes and spirit masters called Auditory Perception Training. The areas of auditory perception which are included should cover the problems which the High Challenge child may have:

Auditory Memory begins with two items and develop to five items which must be recalled. The tapes and ditto sheets also reinforce color discrimination, spatial awareness, and ordinal position.

Auditory Motor develops skills from a simple directional response to multi-directional responses.

Auditory Figure Ground develops the child's ability to focus on the important auditory stimulus. The lessons are sequenced and are excellent as a part of a readiness program.

Auditory Discrimination develops the child's ability to associate gross sounds with pictorial representations of the sound. The sequence of the tapes ends with the discrimination of finer sounds with a picture or letter representing a phonic element.

Auditory Imagery develops the ability to visualize an image from an auditory description.

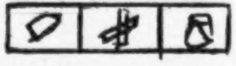
This type lesson is excellent for a volunteer aide. When the child understands the procedure, an aide can supervise the activity. A record can be kept of the child's progress to keep the lessons in sequence.

Other opportunities for aides to work with children in the auditory area are possible. These mini lessons are designed for practice in responding to specific sounds. They can be done with an aide and two children or with a parent and child.

Lesson 1 (Discrimination of gross sounds)

Materials:

1. Bell - clop sticks (rhythm sticks, drum - etc.)
2. Colored popcorn
3. Paper cups
4. Newsprint - 4" by 10"
5. Green, blue, yellow and orange crayon

Before the children come to the lesson the aide can have the newsprint divided into 3 parts lengthwise  with pictures of the noise emblems in each part. These little sheets can be mimeographed. With the crayons, the children can color code the pictures of the noisemakers to correspond with the colors of the popcorn. For example, the bell red, the sticks blue, and the drum yellow. Then each child would have the three pictures, colored popcorn, and a paper cup in front of them. The instructor sounds the soundmakers one at a time behind a screen. The child drops a piece of popcorn into the cup which is the same color as the color code for the instrument which is being sounded. If the instructor rings the bell, a red popcorn goes in, sticks sounded, blue popcorn, or drum sounded, yellow popcorn. The instructor should vary the order. When the lesson is over, count the number of each colored sets of popcorn. The children checking against each other can immediately see how well they have done.

This lesson can be varied by using different rhythm instruments. (Also the lesson can become increasingly difficult by making the sound difference more and more subtle. From drum and bell to two types of drums or two types of bells).

Lesson 2 (Auditory discrimination and sequencing)

Materials:

1. Colored blocks (or popcorn - or squaresof felt or beads - or macaroni - or anything in various colors which can be manipulated).

2. Strips of newsprint with a green dot on the left end and a red dot on the right end.

Place the colored blocks in front of each child. Be certain there are at least 2 of each color. Say two sounds which are just alike, such as zzz, z-z-z. Then the instructor should ask if the two sounds are just alike. If the child does not know, tell him yes and then repeat them. Then ask the child to repeat the sounds after you. Since the sounds are just alike, ask the children to place two blocks of the same color going from the green dot to the red dot on the strip of paper on his desk. Repeat this same procedure with sounds such as m-m-m and l-l-l. After the children seem to understand the coding, the instructor may begin to vary the stimulus, one time making the two sounds the same and another time making them different. The colors would not be coded to a specific sound but would only mean same or different. Continue as long as time or attention will permit.

(This lesson can be extended to include three sounds in a row and then four sounds - only when the child is ready for this sequence length).

FOLLOWING DIRECTIONS TEST

This can give the teacher an idea of the child's auditory sequencing, auditory decoding, motor encoding, his knowledge of common spatial words, number words, color words, left to right and top to bottom progression, etc.

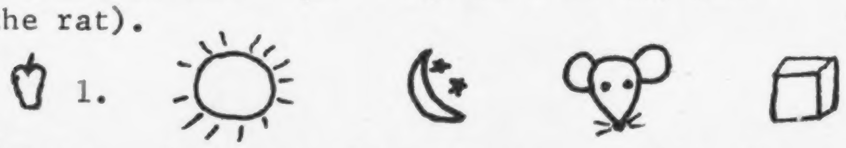
Explanations:

The first eight will be done with pencil and the last eight with crayola. If the children cannot follow two directions given at once, give two directions as two sentences with a pause between them. Use either the numeral or the small picture as a reference, depending on the child's ability. Then giving the test as is, with two directions at once, retest on the easier level for those problems the children miss to find out specifically which words or concepts they do not understand.

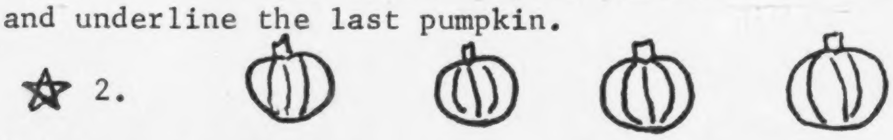
Directions:

Look at the four pictures beside the apple. Each time we look at four new pictures, I will tell you to do something only once. Listen carefully and do just what I tell you to do. We will move from left to right and top to bottom. (Show the children left to right directions and top to bottom directions).

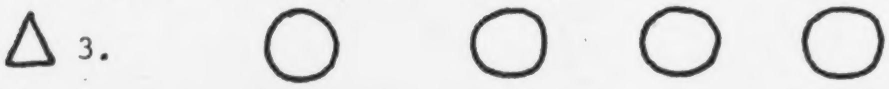
Point to the apple. Pick up your pencil. Put an X on the sun and a circle around the rat. (Or:. Put an X on the sun. - - -.- Put a circle around the rat).



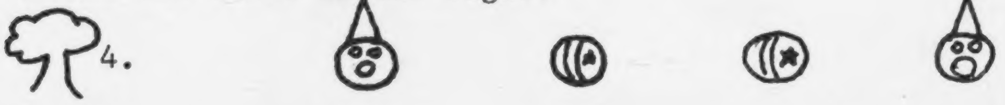
Point to the star. Pick up your pencil. Put an X on the first pumpkin and underline the last pumpkin.



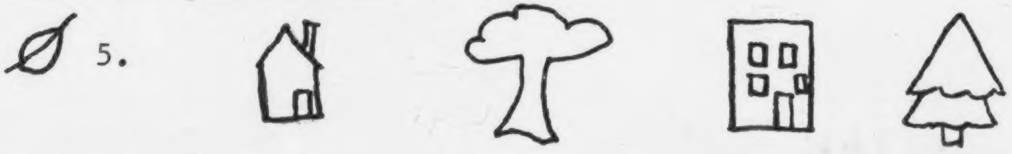
Point to the triangle. Put a dot in the second circle and a dot over the third circle.



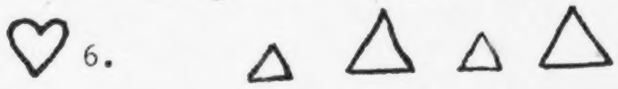
Point to the tree. Put a circle around the clown on the left and a square around the clown on the right.



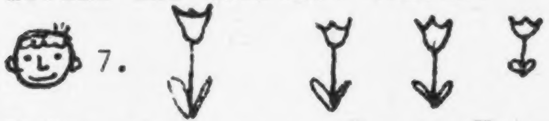
Point to the leaf. Put a triangle around the first picture and a line under the picture next to it.



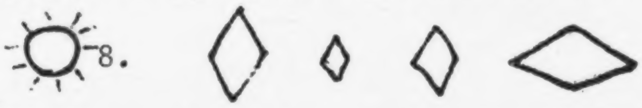
Point to the heart. Put a circle around the big triangle in front of a little triangle and a dot under a little triangle between two big triangles.

6. 

Point to the boy. Put a triangle around the tallest flower and a square around the shortest flower.

7. 

Point to the sun. Put an X on all but the smallest diamond.

8. 

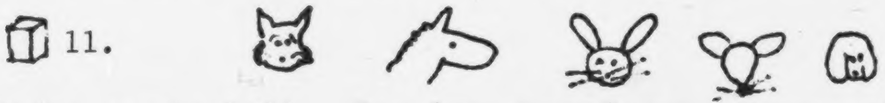
Point to the moon. Put down your pencil and pick up your blue crayon. Now color the inside of the triangle blue and put a line under the rectangle.

9.

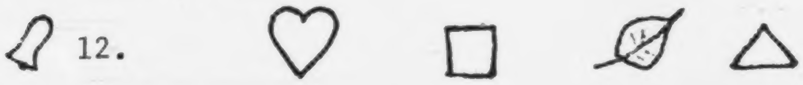
Point to the ball. Put down your blue crayon and pick up your red crayon. Put a line under the smallest word and a line over the largest word.

10. go you come large

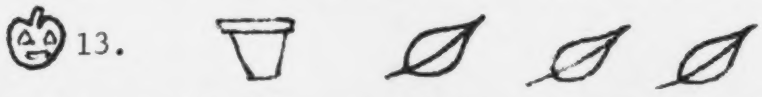
Point to the box. Put down your red crayon and pick up your brown crayon. Put a line through every animal, except the one in the middle.

11. 

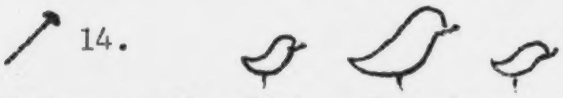
Point to the bell. Put down your brown crayon and pick up your green crayon. Color the picture that would usually be green and X the picture that would never be green.

12. 

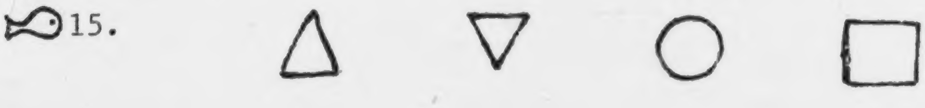
Point to the jack-o-lantern. Put down your green crayon and pick up your yellow crayon. Draw a line from the leaf nearest to the flower pot over to the leaf farthest from the flower pot.

13. 

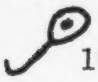
Point to the pin. Put down your yellow crayon and pick up your black crayon. Put an X on the duckling who is not behind his mother and a circle around the duckling who is right behind his mother.

14. 

Point to the fish. Put down your black crayon and pick up your orange crayon. Do not mark the triangle with an X, but please mark the circle with an X.

15. 

Point to the balloon. Put down your orange crayon and pick up your purple crayon. Find a letter with a circle in it and put a circle around it and find a letter with a triangle in it and put a triangle around it.



16. d h A m

BIBLIOGRAPHY

Goldstein, Hubert and Edith Levitt. Reading Readiness Workbooks. Chicago, 1968.

Johnson, Doris J. and Helmer R. Myklebust. Learning Disabilities. New York, 1967.

Zigmond, Naomi K. and Regina Cicci. Auditory Learning. San Rafael, 1968.

HAPTIC DEVELOPMENT

HAPTIC DEVELOPMENT

Learning in the Haptic area is not as easy to pinpoint as learning through the visual and auditory modalities. Haptic is a term which suggests the interaction of the tactile (skin sense) and the kinesthetic (muscle sense). The learning delineated in the motor section all involves the kinesthetic.

The research is not clear on the amount of learning or the retention of the learning. Some tendencies do though seem to be suggested. When a child is impaired in the visual area, the auditory area, or a combination deficiency, the Haptic sense can aide learning. Adding the tactile and kinesthetic sense to the teaching situation is a natural consequence of writing words as they are presented.

A child's first learning is in the Haptic area. He feels and moves to become acquainted with his world. He determines the size, temperature, shape, texture and myriad other possibilities of the world through skin sense. His awareness of this world enhances the world he sees and hears. The new infant is not content to see or hear a new toy. He touches it, rolls it, and tastes it.

To develop to his maximum in this area the child must come into contact with many textures. He must be allowed to explore. In a playpen, the child is not allowed these experiences, and the sense will theoretically not develop to its potential.

Not as much is known about the learning through this modality as through the visual and auditory areas, but for many years Grace Fernald has added the Haptic modality in her remediation techniques for the children who come to her clinic. She has often been successful.

Many programs suggest a multi-sensory approach to the teaching of reading. The letters and words are seen, heard, touched and traced. Therefore the Haptic sense becomes part of a teacher's developmental techniques as well as the clinician's remediation.

The multi-sensory approach uses the visual, auditory, tactile, and kinesthetic modalities to present new learning whenever possible. For example, when a new sound and letter is presented, the child sees it, hears it, traces it and touches it concurrently.

This chapter will suggest techniques for academic development using the Haptic sense as well as its place in overall sensory development.

FERNALD METHOD

(General Plan)

Let the child select any word he wants to learn, regardless to length, and teach it to him.

Several words are taught in this way. Each word is written for the child, and learned by him, before it is written in his story.

Stage 1: The child learns by tracing a word.

A. Finger contact: Saying each part of the word.

    1. The word is written for the child with crayola on paper.

B. Write the word without looking at the copy.

    1. The child traces the word with finger contact, saying each part of the word as he traces it. (three times).

C. Word always should be written as a unit.

    1. The child writes the word without looking at a copy.

    2. If incorrect, the child traces again and writes the word.

D. Word should always be used in context.

    1. Then, use the word in a story.

E. Word should be placed in word file.

    1. Type the story for the child, so he can read it in print.

F. The child files the words under the proper letters in his word file.

G. The child learns a word by looking at it, feeling it, saying it, and writing it.

H. Children can also use velvet, rug sections, sand, soft clay, terrycloth, seersucker, corduory, etc. to trace new words on.

BIBLIOGRAPHY

O'Donnell, Patrick A. Motor and Haptic Learning. San Rafael, 1969.

BODY CONCEPT DEVELOPMENT

BODY IMAGE AND CONCEPT DEVELOPMENT

For clarity, Marianne Frostig's definition of the elements which make up an adequate knowledge of the body will be used.

1. A person's body image is his subjective experience of his own body -- his feeling of it. (developing since birth, crawling in, out, over and under).
2. A person's body concept is the intellectual knowledge that he has of his body. (Verbalization of inner awareness).
3. A person's body schema regulates the position of the different muscles and parts of the body in relation to each other at any particular moment, and it varies according to the position of the body. (Sequenced motor activities designed to change position and balance).

A child must have an image, or inner awareness, and a concept, or intellectual awareness, of his own body in order to be aware of his position in space. All the activities suggested in the motor section of the handbook reinforce the child's body schema, internal understanding of the uses, changes, and limits of his body. This feedback is controlled, as in activities on the balance beam which internalize left and right, and the form box activities which give contact to the child as he crawls through. Adjustments must be made as the child travels from position to position in the motor activities. Other feedback is not so controlled, but nevertheless it is important. The child's reaction, the feelings he gets from sitting, standing, jumping, reaching, throwing and touching during everyday activities is feeding back information about his body and its position.

When verbal notice is made of these activities, first by the teacher, and then by the child, a strong concept is built. And this strong concept provides a basic construct, a point of reference, upon which future perceptual motor skills develop and with which other perceptual motor skills can be better understood.

This body concept can also provide the concrete experience which sets up a base for future abstract thinking. Quantity concepts can at least partially develop as analogies to parts of the child's body.

The concept of part to whole is reinforced by an internal knowledge of one's body. The parts - arms, legs, head, trunk - make up the whole - you.

This concept should include an awareness of "self." The child must be pleased with the person he finds himself to be, because improvement in the child's body image might well have more persuasive effects on his overall functioning. There is no data to show this thus far in the "High Challenge" Project, but it does seem that as the body concept - shown by the way a child draws a picture of himself - improves, the overall functioning of the child shows improvement.

In general, to improve this concept:

1. Movement should be goal directed and the goal verbalized.

2. In play, objects should be directed toward as well as away from the body.

3. A full length mirror should be available in the classroom for random viewing and for naming activities - head, hand, eye, etc., top, bottom, side.

4. Stories shared which bring parts of the body into a whole.

5. Exercises which match clothing to body parts and which compare relationships. (Peabody Language figures - Body concept analogies).

The teacher with children whose body concept is low can set up small groups in the lessons from the Primary Peabody Language Development Kit which use the body concept mannikins:

Daily lessons 5 - 7 - 12 - 20 - 26 - 38 - 52 - 59 - 65 - 74 - 85 - 99 - 101 - 123 - 130 - 165. can be used for this body concept development.

The following is an example of a pre-primer story which lends itself to body image development. The book is Fun With Our Family, in the Scott, Foresman, and Company Basic Reading Program. The story is "Jump, Sally"- on pages 11 - 14.

It is about Sally and Jane in a bag race.

Page 11

1. How much of Jane can we see? (Jane is jumping in a cloth bag). Head, eyes, arms, hand, shoulders, ears, eyes, nose, hair.

2. How much of Jane is hidden in the sack? Feet, shoes, legs, body.

3. What is Sally going to do?

4. Can we see all of Sally?

Page 12

1. Now does Sally look like Jane?

2. How do their bodies move in the sacks?

Page 13

1. Why did Sally's sack break? (Sally too heavy. Sack too weak.)

2. What can we see peeking through the sack?

Page 14

1. How do we know Jane had a strong sack?
2. How do we know Jane had a big Sack?

BODY CONCEPT ANALOGIES

(LANGUAGE DEVELOPMENT)

These analogies are designed to increase body concept and awareness of the world around the primary child. They may be done orally in kindergarten and first grade, or perhaps as a written assignment with advanced first graders.

1. Wheel is to a wagon as (leg) is to a child.
2. Beak is to a bird as (mouth) is to a child.
3. Coat is to a child as (fur) is to a bear.
4. Claw is to a tiger as (fingernail) is to a child.
5. Skin is to a child as (scales) is to a fish.
6. Pinchers are to a lobster as (fingers) are to a child.
7. Scoop is to a crane as (hands) are to a child.
8. Curtains are to a window as (eyelids) are to an eye.
9. Gas is to a car as (food) is to a child.
10. Den is to a fox as (home) is to a child.
11. Night is to a bat as (day) is to you.
12. Feathers are to a duck as a (raincoat) is to a child.
13. Fingers are to hands as (toes) are to feet.
14. Gloves are to hands as (shoes) are to feet.
15. Cub is to bear as (baby) is to mother.
16. Snout is to pig as (nose) is to child.
17. Hoofs are to horses as (feet) are to children.
18. Lens is to camera as (eye) is to child.
19. Sticks and mud are to nests as (bricks) and (cement) is to my house.
20. Tongue is to taste as (nose) is to smell.

21. Eye is to see as (ear) is to hear.

22. Ear is to hear as fingers are to (touch).

23. Washing Machine is to clothes as (bathtub) is to a child.

24. Toothpaste is to teeth as shampoo is to (hair).

25. Cap is to bottle as (hat) is to child.

26. Moon is to sun as (mirror) is to child.

27. Cat is to kitten as (man) is to boy.

28. Puppy is to dog as (woman) is to girl.

29. Washcloth is to face as (comb) is to hair.

30. Top is to bottom as left is to (right).

31. Cry is to sad as laugh is to (happy).

32. Bat is to hit as foot is to (kick).

33. Teacher is to school as mother is to (home).

34. First grader is to read as baby bird is to (fly).

BODY CONCEPT

(MATH DEVELOPMENT)

MINI LESSONS which can be used by parents, teachers, and aides reinforce math and body concept at the same time.

I.

Exposure:

1. Addition 1 + 1, 5 + 5
2. Following directions
3. Body concept
4. Numbers and numerals 1-2-5-10

Materials:

1. Peabody Language Kit magnetic body
2. Magnetic + - 1-2-5-10

Use Peabody Language boy and girl figures to reinforce body concept. Use numerals and words for 1 one head, body, nose, chin, forehead, mouth -- 2 two arms, hands, legs, feet, eyes, ears, heels -- 5 five fingers on each hand, toes on each feet -- 5 + 5, five plus five fingers all together, toes all together equals ten, = 10. On magnetic board fill in __+__=___ using 1, 2, 5, 10 in conjuction with parts of the body.

End the lesson by directing the children to:

1. Show me 1 foot.
2. Show me 3 fingers.
3. Close 2 eyes, etc. Point to the numerals on chalkboard instead of saying number words.

II.

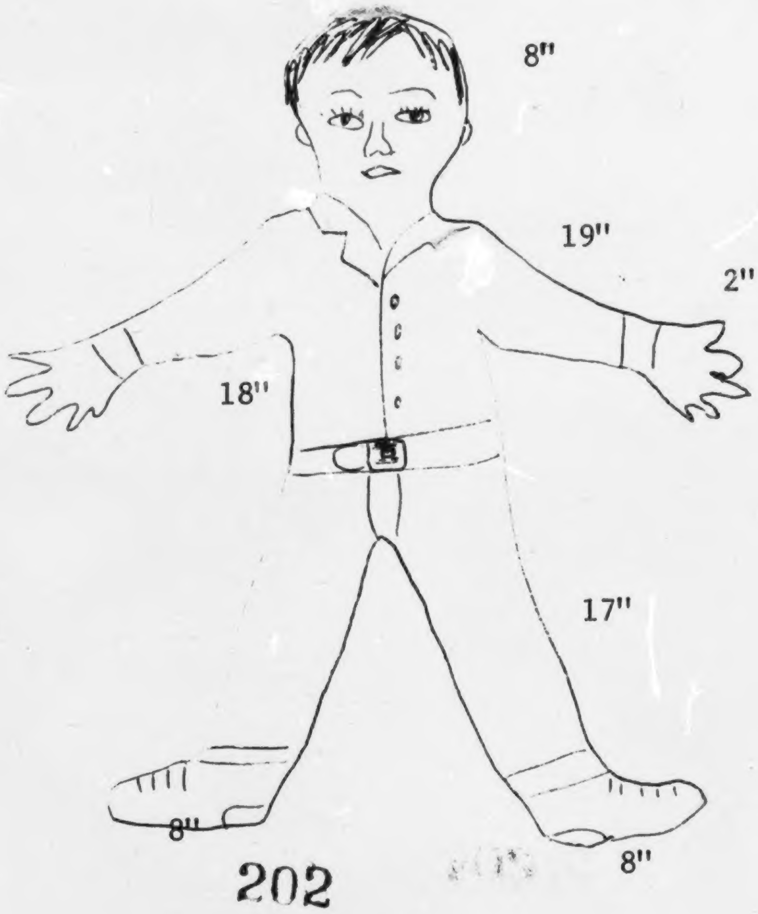
Exposure:

1. Ruler - yardstick - measuring
2. Body concept
3. Addition 1 + 1, 5 + 5
4. Sets
5. Numerals 1, 2, 5, 10

Materials:

1. 48" wide brown wrapping paper
2. Yardsticks
3. Black crayons

Use large roll of brown paper wrapping paper. With the assistance of an aide, draw around the figure of each child in the High Challenge Arithmetic group. The children use the yardstick with the teacher and aide to measure the arms, legs, fingers, head, whole body, etc. Each child identifies the number of heads, arms, legs, bodies, fingers and toes they have. Then the children will take their figure to be colored during the work period. They will be told to think very carefully about the color of their eyes, hair, and about the clothes they are wearing that day.



III.

Exposure:

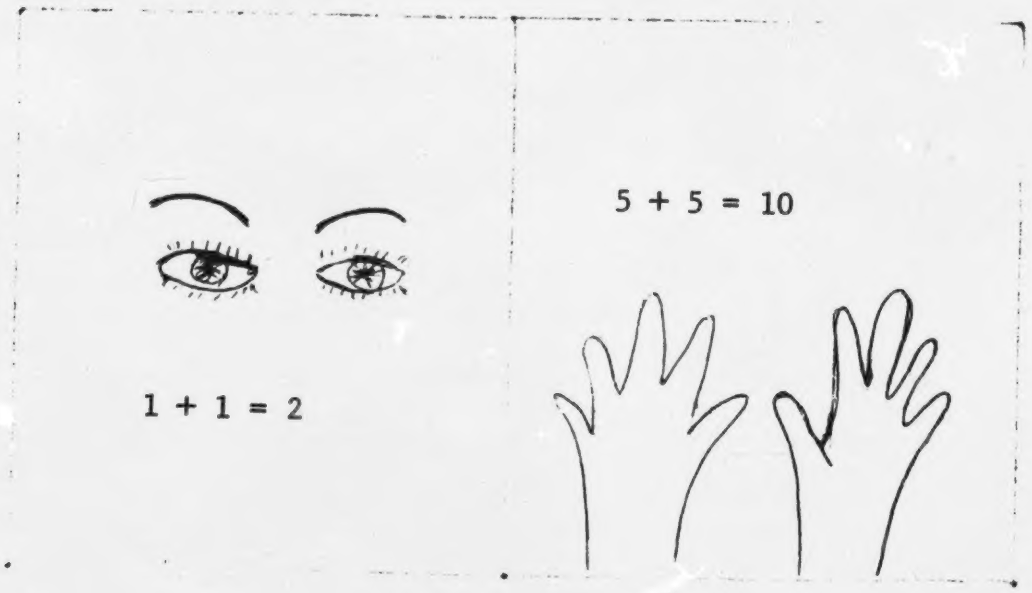
1. Body concept
2. Addition 1 + 1 = 2, 5 + 5 = 10
3. Sets, numerals
4. Left to right progression

Materials:

1. Bodies drawn on paper in previous class
2. Rectangular newsprint
3. Black, brown, green, blue crayon

Divide newsprint into half. Children go over the line from left to right with crayon. Then together with the teacher they all write 1 + 1 = 2 after looking carefully at each others eyes. Then they draw their own eyes after discovering from their friends what color to use. They are encouraged to notice lashes, brows, whites, corneas, etc.

Then in the other half of the page they write 5 + 5 = 10 with the help of the teacher. They use an outline drawing of their opposing hand to see 5 + 5 = 10. Then both equations are read by each child and by the group together.



IV.

Exposure:

1. Position in space
2. Body concept
3. Addition 1 + 1, 5 + 5
4. Sets
5. Numerals
6. Ruler - yardstick - measuring
7. Comparison larger and smaller

Materials:

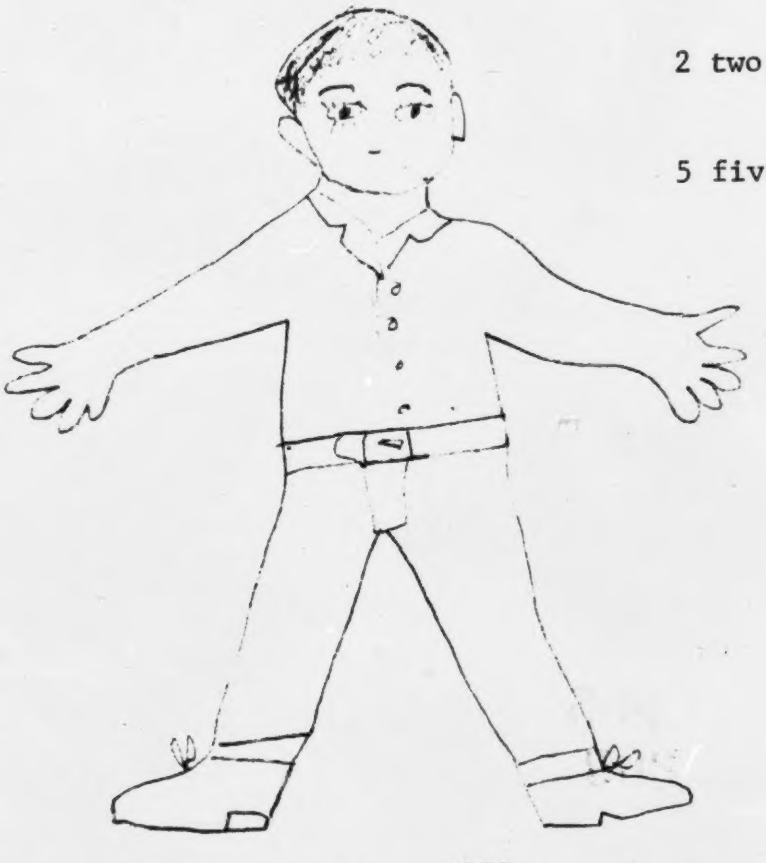
1. Bodies used in previous lesson
2. Chalk and chalkboard
3. Yardstick
4. Pages 3 and 4 Houghton Mifflin Mathematics

With the help of an aide, the children's figures are cut out and hung up. Then the children decide which child is largest - smallest, tallest - shortest, or biggest - littlest. Fill in the numerals to complete equations to correlate with the body: ____ + ____ = ____ and ____ + ____ = ____. (1 + 1 = 2 and 5 + 5 = 10).

1 one: me, head, nose, body, mouth, face

2 two: eyes, ears, checks, arms, hands, legs, feet.

5 five: fingers, toes



V.

Exposure:

1. Large, Larger, Largest
2. Small, Smaller, Smallest
3. Comparison
4. Body concept
5. Left to right progression

Two children are chosen to be compared with their teacher. Then from left to right the class compares and repeats the words small, smaller, and smallest. Then changing the direction of the objects (people) from left to right the children compare and repeat the words large, larger, and largest. This procedure is followed until all the children in the group have had their chance to participate.

VI.

Exposure:

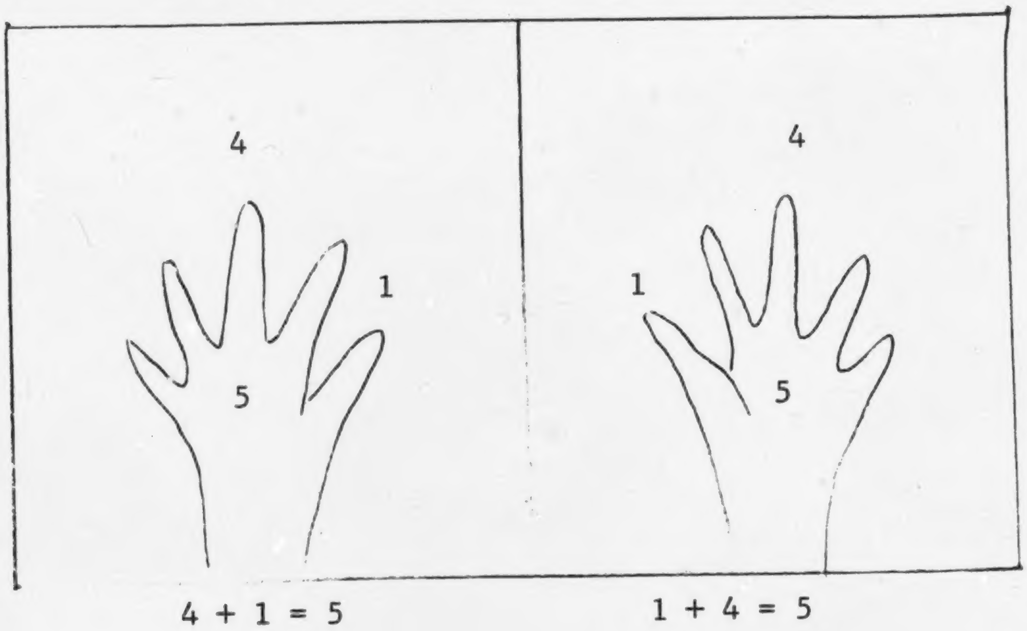
1. Commutative law of numbers
2. Addition, plus, equals
3. The fingers as counters
4. Left to right progression
5. Sentence sense

Materials:

1. Newsprint 8" by 11"
2. Red, yellow, and orange crayons
3. One inch blocks - red, yellow and orange

The children use newsprint, prepared with ___+___=___ with these filling four places on the page. Then using fingers, blocks, and the chalkboard, these four number sentences will be done one at a time and finally the children will fill in the blanks. On one side of the page the children will put an outline drawing of their hands in orange with left hand on left, and right hand on right. Then label thumbs with yellow ones and fingers with red fours. Then put orange fives on back of hands. On the other side of the page the children will put 4 + 1 = ____, and 1 + 4 = ____. The children will draw pictures of the blocks, for example 4 red plus 1 yellow with an orange set ring around it.

Example of finished newsprint page:



VII.

Exposure:

1. Ordered numbers
2. Body concept
3. Sets and numerals 0, 1, 2, 5, 10
4. Left and right
5. Addition, plus, equals

Materials:

1. Body cut outs
2. Chalkboard and chalk

The children will use their body facsimiles one more time. They will identify 1 head, 2 eyes, hands, etc., 5 + 5 fingers and toes, 10 altogether. Then using the fingers they will count the fingers, saying between each number the words add on one. For example: 1 add on one 2 add on one 3 add on one 4, etc. Then to finish the lesson, the children will fill in equations __+__=___ on the chalkboard to match the fingers which the teacher holds up. 1 + 1 = ___. 2 + 1 = ___. 3 + 1 = ___. 4 + 1 = ____.

SPATIAL RELATIONSHIP MINI LESSONS

Developing the spatial relationship words in and out.

I. Body

- A. Begin by using your (teacher) body and demonstrate for the child the position.
- B. Verbalize action (example - My finger is in my ear - My finger if out of my ear).
- C. Children imitate teacher's action and verbalize in single words.
- D. Children verbalize in phrases and in complete sentences.
- E. Teacher may cue children - Where is your finger? My finger is in my ear. My finger is out of my ear.

II. Body to another person.

- A. Ask all but one child to place their hands together, palm sides in and with fingers straight.
- B. Say to remaining child, "(Name), please place (one of your hands or your right hand) in another child's hands."
- C. After first child has slipped his hand between other child's clasped hands, ask "Now, please take your hand out of (child's name) hands."
- D. Let the first child then give instructions requiring the second child to repeat these actions with one of the other children.
- E. Repeat the sequence until all children have had a turn receiving and giving instructions. Encourage each child to verbalize their instructions in complete sentences.

III. Body to object.

- A. Place a large cardboard box on the floor.
- B. Have children sit on floor around the box.
- C. Suggest that, "sometimes we like to use our whole self or body to show the meaning of words."

D. Ask one child if he could show you the meaning of _in_ and _out_ using his body and the box.

E. Turn box in different positions (on sides) and have children get _in_ and _out_ of box.

F. Next, play game, to the tune of Mulberry Bush, sing "(_Child's name_) sitting _in_ the box, _in_ the box, _in_ the box, (_Child's name_) sitting _in_ the box.

G. Now, (He's, she's) getting _out_ of the box. Let each child have a turn being sung to.

IV. Object to object.

A. Place a small box or any empty container on a table, (floor, desk, etc.).

B. Ask the child if he could show you the meaning of _in_ and _out_ using an object and the box. Various objects may be used.

C. Have child to verbalize his actions.

V. Pictures.

A. Place the pictures of the spatial relationship words _in_ and _out_ along the chalk tray.

B. Have the child to tell you about the picture - what it means.

VI. Words and pictures (auditory).

A. Place the pictures of the spatial relationship words _in_ and _out_ along the chalk tray.

B. Say the word _in_ and ask the child to find the picture that means _in_.

C. Say the word _out_ and ask the child to find the picture that means _out_.

VII. Picture and words (Visual)

A. Place the pictures of the spatial relationship words _in_ and _out_ along the chalk tray.

B. Show the word _in_ and ask the child to find the picture that means _in_.

C. Show the word _out_ and ask the child to find the picture that means _out_.

VIII. Words and pictures (Auditory)

A. Dictate to the child the spatial relationship words in and out

B. Child then draws picture, (auditory directions) on chalkboard or paper.

IX. Words and pictures (Visual)

A. Write words on paper for child.

B. Child reads word and independently illustrates what the word means by drawing pictures. (If child has trouble with sight word, have him trace over word with finger).

C. Child verbalizes the word and picture to teacher or aide.

D. Make note on child's paper if he fails to know the word. (If he does not know the word, tell him immediately - then watch to see if he can illustrate). (Visual directions)

EVALUATION:

Step VIII, Auditory problems, unable to illustrate by auditory directions.

Step IX, Visual problems, unable to read sight word by visual directions.

* Spatial Relationship word list may be found in the Academic Development Section of this book, in the mathematics series.

ACTIVITIES TO DEVELOP BODY AWARENESS

These ideas came from Motoric Aids to Perceptual Training, by Clara M. Chaney and Newell C. Kephart.

A. Movement and Exploration

1. Let the child move about. Just movement for fun, involving as much of the body as possible.

2. Move parts of the body - head, arm, legs, trunk.

3. Specifically move parts - crawl, walk, jump, wiggle, etc. over, under, through, between, behind, toward goals and through obstacles.

4. Look at and explore parts in a large mirror, (his own hands and feet, arms, legs, tummy, etc.). As the child does this:

    a. Be certain the child can see clearly.

    b. Touch the part - tap, squeeze, rub, etc.

    c. Add pronounced viaual stimuli - direct a light at the part, put a colorful patch or mark on the part, etc.

    d. Encourage child to bathe and dress himself. He is to look as he soaps an area or places a limb - use "Crazy Foam" or "soap crayons."

    e. Stick pieces of colored gummed paper on body parts one at a time. The child locates and removes them.

    f. Hide parts of his body by covering with towel, sand, and let him name them.

B. Awareness of Movement in Others (all following the leader)

1. The child watches the teacher. Use some activities suggested above.

2. The child should try the activities first close to the teacher and then at a distance.

3. Move a body part or parts - pat-a-cake, wave, stick out tongue, blow bubbles, make faces, move arm or leg up-down, back-forth, kick, stoop, sit, stand, shake your head, etc.

4. Touch and name the parts of your body.

5. Use parts of body for pantomime, hammering, washing, sawing, sewing.

6. Touch a part to another; toe to mouth, toe to nose, head to knees.

(follow verbal commands)

7. Look for, find and touch body parts on himself, on others, on a doll, etc.

8. Move left arm or left leg - indicate by pointing (for the more advanced child, name right and left).

9. Move a part or parts into a given position. (put your right hand on top of your head).

10. Tell child to - reach, kick, swing arms, stoop, stand, sit, hop, jump, shake his head no-yes, blow, suck, chew, etc.

11. Ask child: What do you eat with? Sit with? Lick with? Smell with? Reach with? Kick with?, etc.

12. Direct the child to relate a body part to objects in space. Touch the desk with your knee, etc.

13. Direct the children to use a part or parts to propel an object through space - roll, throw, catch, or bounce the ball; pull the wagon; push the chair; push the ball with your elbow, head, knee, etc.; pick up the block, etc.

C. Projecting Body Image to Another Object

1. Identify parts of another person, a paper doll, a teddy bear, Peabody Mannikins.

2. Put a doll through many of the activities listed under Movement Upon Command, Section B.

3. Dress doll verbalizing clothes and body parts - shoes to feet - dress to body.

4. Work with "people puzzles."

5. Play "paper dolls."

6. Draw around child on a large sheet of paper.

7. Add one or more features to a picture of a face.

8. Add all of the features to a picture of a face.

9. Add parts to a body. Use the Peabody Mannikins.
10. Identify from pictures, body, parts, and facial expressions, etc.
11. From memory, have the child add missing parts to a figure of a man drawn on paper.

AFFECT DEVELOPMENT

AFFECT DEVELOPMENT

The child's emotional, his affect life, is being influenced every waking moment. The only variables which the first grade teacher can control are the attitude of his first grade teacher and the climate of his first grade classroom. No matter what is happening outside the classroom to defeat the child, or to reinforce a feeling of rejection, the first grade teacher must accept the child, reinforce his worth as a person, and allow him to be successful.

The affect climate in a first grade classroom is directly related to the temperature and attitude of the most important variable, the teacher. The questions which the child must answer about his teacher during this first, most important year of school, the year society expects him to read, are these. Is she warm, neutral, or cold? Do I want to draw closer or pull away? Is it important to me if she smiles at my successes and forgives my failures? Does she make me feel important or worthless? Does she let me accept my defeats as well as my successes? Does she let me feel good about myself even when I fail?

These questions are being answered in the child's behavior and reciprocating attitude each day, in fact each minute, of the school year. When his worth is not reflected in the eyes and touch of his teacher and when his failures are not counterbalanced with success, the child reacts and none of the reactions are desirable. He acts silly, becomes aggressive, talks without ceasing, never talks, runs away, refuses to come to school, doesn't learn to read, etc.

The child must feel caring and warmth from his teacher. If a teacher does not care in a warm, responsive way for young children, she does not belong with young children in any capacity, especially as their teacher. So much depends on this warmth and caring, that society cannot afford teachers who are not warm and who do not care.

Success is self-actualizing. Success tends to build more success, while failure tends to build more failure. The sequencing of skills and the teacher's intelligent placement of children at the correct place in these sequences allows the child to succeed. At the same time it allows the child to realize that it is honest success, not contrived.

The first grade teacher's finest gift to her students is to make a mistake the first day of class, admit the mistake, and from this the children can generalize that mistakes are very human things to make. The child who is not afraid to make a mistake is not afraid to try. Children must never be allowed to laugh at mistakes others make because in the way of things they will soon make a mistake and no laughter will be appreciated then.

A classroom with a caring teacher who is not afraid to let the students know she cares, with a kind, accepting attitude of child toward child, child toward teacher, and teacher toward child, and with individualizing to maximize success and minimize failure, will give the best opportunity for growth in all areas. When the ultimate precious resource, the child, feels he is liked, he is secure, and he is successful, then his affect area will not retard, but only enhance his academic growth.

ACADEMIC DEVELOPMENT

- Reading and Language
- Mathematics
- Science

ACADEMIC DEVELOPMENT

READING

Alfred North Whitehead, in his book The Aims of Education, has set up three stages of learning. The stage of romance, the stage of precision, and the stage of generalization, all of which are occuring for different learnings all the time.

The child should never skip the level of romance. Precision can be worked for as a base of readiness is built, but reading, numbers, writing, spelling, and science still can be kept on the level of romance. They can, as precision is begun, be fun and the pressure reduced until the child's organism is ready for formal academic instruction. Although some precision would be required if the child had not reached a level of ability in any area which would be considered average for a child entering first grade.

Techniques leading toward precision in the motor, visual and auditory area have already been covered in the handbook and even these techniques can add romance to the child's school experiences.

Reading itself, even the technical aspects such as letters, phonemes, sound blending can also be kept on the romance level by varying methods when concepts are repeated. The methods which can be used for this are mentioned after a short description of reading readiness and development.

Mrs. Ettalily Skinner, Supervisor of Reading for the Tulsa Public Schools, has prepared a learning packet for teachers called Reading, A Process. In this book she has a list of possibilities from which one must choose six that should precede formal reading instruction and which constitute what is called readiness for reading. The six which are correct are:

1. Vocabulary development through activity and conversation.
2. Word comprehension via experiences and conversation.
3. Listening.
4. Visual motor coordination.
5. Thinking in sequence.
6. Large muscle coordination.

Notice that it is a base for learning which is necessary: Gross motor abilities which make a base for all other learning, sequencing ability which enables the child to carry activities through to completion, and anticipate English syntax, eye hand coordination, which enables the child to comfortably reproduce the symbols he is learning, the ability to attend to the teacher and follow her direction which is listening, and a strong base of language, implying a functioning auditory system, which makes the decoding of symbols profitable.

This handbook is not concerned with presenting the overall worth of any reading program. The developmental reading program as described in Reading, A Process best describes the reading program that the High Challenge child needs. This type program does not depend upon a particular textbook but instead:

1. Each child is taught by methods and with materials best suited to his needs.

2. Each child becomes independent in his use of reading materials at his level of achievement.

3. Each child learns to read to the best of his ability.

4. Each child develops reading skills at his own rate of learning.

5. Each child becomes increasingly aware of the purposes for which he reads and of his own progress in reading.

6. Each child is an active participant in a balanced and varied program of reading activities.

The characteristic of the program which is most pressing for the teacher of the High Challenge child is number 1. A teacher must have, at her fingertips, the materials and methods which will best suit the child's specific need. To do this she must have a perceptive look at the child within the child, his strengths and deficits. Some methods and materials for the child with specific problems are listed below.

For the child who is distractible and needs more consistency with his earlier reading experiences than many series provide, the Charles E. Merrill Publishing Company has published a series of linguistic readers. The important characteristics of this system which make it useful for the High Challenge child which we have previously described are delineated in the teacher's edition of the readers. These characteristics are as follows:

1. Oral language activities are a vital part of the program. (Work on syntax, sequence).

2. The words presented are well known to the child who reads them.

3. Vocabulary is presented through a spelling pattern approach. (Supplies the consistency so necessary for High Challenge children).

4. Word presentation depends upon minimum contrasts in words with similar spellings (emphasis and practice on the visual discrimination these children need).

5. Alphabet reinforcement until recognition and discrimination is immediate in or out of any sequence. (Alphabet work in itself is important for the sequence sense of these children).

6. Sight words are presented for their importance in syntax, but not emphasized.

7. Use of the spelling patterns is carried to other words. (Applies the ability to generalize).

8. Meaning is emphasized in all lessons - no nonsense words. (Reinforces the concept that reading is talking).

9. Stories are about common and realistic situations. (Again reinforcing the concept of what reading is).

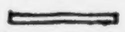
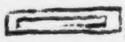
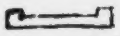
10. Pictures are excluded in order to focus the student's attention on the reading itself. (No distraction for the distractible - will not allow guesses from picture clues).

11. Spelling patterns allow early writing reinforcement. (Adds the kinesthetic sense to all reading understandings).

12. Daily evaluation and readjustment is provided. (Needed for all children but especially the High Challenge child).

These distractible children also need movement whenever possible in learning. The alphabet, alphabet sounds and spelling can be reinforced with an alphabet line or tiles on the floor. (Suggested activities for this alphabet line are included in the Motor section).

They can also reinforce these same learnings by making the capital letters with their own bodies. The movement in itself is a pleasure for the children and worthwhile for building balance, but also for the hyperkinetic child this movement is goal directed. The phoneme - (sound) and symbol - (letter name) relationship makes a deeper trace.

For children with a visual figure ground problem (those who have trouble keeping their focus on the important object when there is interference around) a marker can be used. Either a market to underline  , a marker with a window which isolates a whole line , a marker with a smaller window to isolate a word or phrase , or a marker with a window cut from the top . If the child loses, or destroys his marker and wants to point, let him. He needs the help this pointing gives him or he wouldn't do it.

Some children have a very strong auditory modality. If a child continually seems to need sound when he is reading, even on silent reading assignments, allow him to vocalize as long as it seems necessary. An informal test for the teacher would be to ask the child to read a page silently for certain information. The child could touch his lips with his finger to keep them from moving. The check the child's comprehension. Then allow the child to vocalize while finding information on another page of similar length and difficulty. If the discrepency is great between the two pages, with the vocalizing giving more meaning, allow the child to vocalize because he needs it at this point. He may always need it for specific study tasks. However, if he does a similar job both ways, he may have a habit which it would not hurt him to break.

Children with trouble orienting themselves to the left to right and top to the bottom progression of English writing, need reinforcement through all senses to make this progression automatic. The child can learn the labels for left and right on his own body and then move these labels out into space.

The Dubnoff exercises and pattern board are sequenced to develop this orientation, as well as other prereading and writing skills, also Fairbanks Robinson Materials contain these exercises.

Green dots can be placed on the left of the child's page and the left of the chalkboard with red dots on the right, establishing the concept of green says go and red says stop.

The child can walk across the chalkboard making a chalk line from left to right then run back from right to left without making the chalk line.

Children can read pictures from left to right, naming or making sounds for animals or musical instruments.

A possibility for specific learnings to ready the child for reading is the Peabody Rebus Reading program. This could especially be for the child with gaps in more than one readiness area. It acquaints the child with handling books; opening from the correct side and following through in proper order, and lifting one page at a time. It develops a symbol vocabulary without the necessity of symbols for phonemes during the first two books. These books also reinforce readiness skills which the kindergarten or first grade teacher is developing through experience stories.

The concepts which are basic to reading and are contained in Rebus reading:

1. Books open on the left and are closed on the right.

2. Reading progresses from left to right down the page.

3. The basic units of language are words.

4. Sentences are combination of words.

5. Pictures can give clues to word perception.

6. Context can give clues to word perception.

7. Sentence structure can give clues to word perception.

8. An awareness that the purpose of reading is to interpret and react to what is read.

9. An understanding of workbook and test taking skills.

The Neurological-Impress Remedial Reading Technique, described by R. G. Hickelman in Academic Therapy Publications, is an economical and time saving method for children who have a reading gap caused by poor eye movements, non-rhythmic attack, or auditory discrimination problems. It is simple in the extreme, but experimentation has shown it to be as effective as it is simple.

The individual NIM method consists of an instructor and one student meeting for fifteen minutes in consecutive daily sessions. To see results this should consist of at least eight hours total.

The child is seated slightly in front and with his back to the instructor so that the instructor's voice is close to the child's ear. The instructor and the child read the same material orally together - preferably at the independent level or lower. The instructor reads somewhat faster than the student. As they read, the instructor moves his finger simultaneously under the spoken words in a smooth, continuous manner at precisely the same speed and the same flow as the oral reading. Later the child will take over this function, alternating the movement of the hand with the teacher. This hand and finger movement whether teacher guided, child guided, or teacher's hand over child's hand can be compared to the speed of a typewriter carriage returning to position at the end of the line.

The instructor should be monitored at first to see if they are synchronizing their voices, with their fingers. This is extremely important because not only is the lesson a search for reading growth but also to remediate the malfunctioning of eye movements.

This technique can be tried at the end of the first grade if the teacher feels the child is beginning to pick up incorrect reading habits of some kind or another, choppiness, miscalling of sight words, poor eye movement, etc. Then with NIM the child hopefully replaces these habits with correct, fluid, and rhythmic reading. Reading style is the concern of NIM rather than accuracy.

If a child does not show marked improvement after four hours, a change should be made to a kinesthetic motor method known as "echoing." The teacher would begin by saying phrases for the child to repeat and building up sentences. Then when the child can correctly repeat these sentences, the words are shown to the child as they are written. Much time would be spent on the echoing before the reading of symbols and eye movement and sweep is emphasized.

Whether echoing or NIM the instructor should pace the work. The phrases and sentences echoed and the material read should be periodically speeded up as the student is literally dragged to higher rates of speed in the reading process.

This method has been used with success in teaching reading to children with learning disabilities in Tulsa. One notable success occurred in the High Challenge classroom with a nine year old child under the instruction of a male practicum.

In order to supply the experience which many adults take for granted in the first grader, the following list of activities can be used by parents, teachers, volunteer aides, and student aides. Everyone associated with the child should be considered a partner in teaching.

The following are activities which can be used:

Auditory and Visual Readiness Activities

1. Use context clues to picture action of "ing" words, such as: dancing, washing, training, etc.
2. Hearing the first consonant sounds in words: T in table, R in rabbit, t and r to make train, and b and r to make bridge.
3. Match letters shapes.
4. Learn names of letters.
5. Match numbers.
6. Hear and say rhymes: C(at), h(at), b(ee), thr(ee), bl(ue), sh(oe), p(ie), and f(ly).
7. Tell whether spoken words do or do not rhyme: hat, bat, bear; sled, tree, three.
8. Find a word that is not like other words: pen, pan, pen.
9. Associate printed name with his spoken name.
10. See constancy of direction in letters and words. (b is not d - was is not saw).
11. Can copy shape contained in letters.

Cognitive and Language Readiness Activities

Children should be given chances to perform these activities to proceed easily through first grade.

1. Tell a story about a three-picture sequence.
2. Tell a story about a four-picture sequence.
3. Tell a story about a six-picture sequence.
4. Tell a nursery rhyme to go with a picture sequence.
5. Relating parts of an often repeated story picture sequence.
6. Visualize an often repeated story by selecting pictures which show important elements.

7. Name farm animals: Cow, sheep, hogs, etc.

8. Name farm products: Eggs, pumpkins, pears, etc.

9. Classify pictures of a food, farm buildings, zoo, animals, houses, and other groups.

10. Use sentences with compound subjects. "The bug and the butterfly are flying."

11. Use sentences containing spatial words.

12. Associate animals with home: bird - nest, horse -barn.

13. Associate products with animals and plants: milk - cow, lumber - trees, flour - wheat.

14. Identify action in pictures: playing, jumping, running, walking.

15. Tell the names of colors: red, blue, green, yellow, etc.

16. Classify objects by color.

17. Rote count ten objects.

18. Match sets with equivalent members.

19. Use good judgement in riding: sled, scooter, bicycle, etc.

20. Listen to and say long nursery rhymes and other verses.

21. Tell often repeated folk tales.

22. Dramatize meanings of spatial words.

23. Sing and memorize short songs.

24. Dramatize stories.

25. Browse through picture books in proper direction.

26. Classify animals as wild or tame, farm, pet or zoo.

27. Discuss trips to the farm or city.

28. Discuss ways of travel.

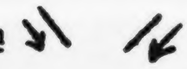
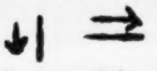
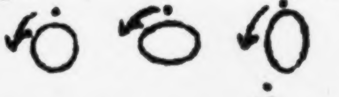
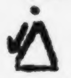
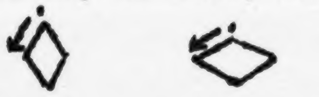
29. Discuss the family: Mother, father, grandmother, grandfather.

This Following Directions booklet was developed as a pre-reading activity for the non-reading beginning first grade child. The child is expected to handle the work independently after 3 or 4 directed lessons.

The booklet was basically designed to teach the concept of closure (referred to here in relation to work habits - the beginning and ending of a specific task). Other concepts developed in the booklet include discrimination of shape, left to right orientation, top to bottom orientation, likenesses and differences, and visual discrimination. It can be used in conjunction with whatever reading method is being used in the class.

The children especially enjoy this activity, because they like to check themselves and make a smile if they are correct or after they correct an error.

Emphasize the concept of left to right progression. Do much directed work on these forms: X, cross, underline, overline, circle, square, triangle, rectangle, oval, diamond.

The children should be directed in a way to make each form free hand. They should have a thought pattern established such as : underline and overline are left to right ⇉, X is left top to bottom and right top to bottom , cross is top to bottom and left to right , circle and ovals are top to the left and around , triangle is top to bottom, left to right, and bottom to top , square and rectangles are top to bottom, left to right, bottom to top, right to left , and the diamonds are top to left, left to bottom, bottom to right, and right to top .

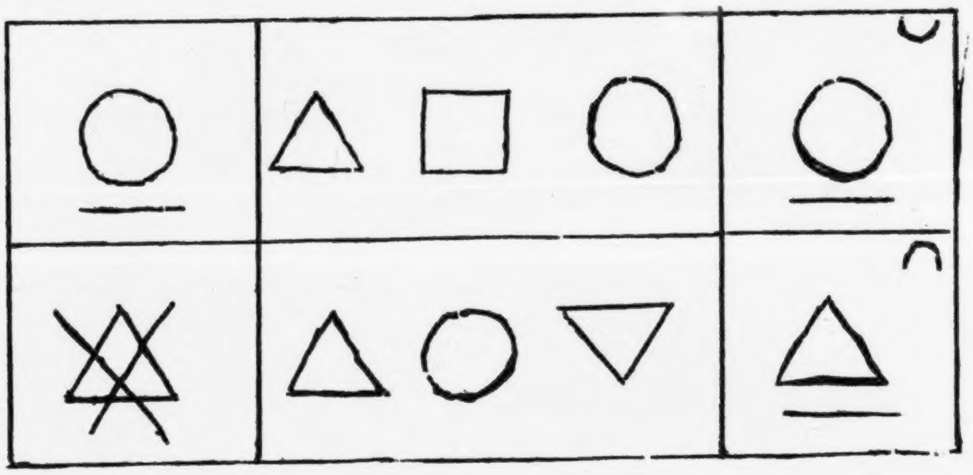
To teach and reinforce the forms and the vocabulary for the forms, the teacher can use: Dubnoff sequential perceptual motor exercises, perceptual bingo, dominoes, card games and visual exercises in the Erie Program, also many of the Developmental Learning Materials, The Ruth Cheeves teaching materials and Try Task I.

Since the teacher knows the amount of direction which each child can follow, the color directions can be as simple or difficult as she can devise. From a simple underline in red for example to perhaps a square in red and a circle in purple adding figure ground problems to the child's task.

Instruct the children to look carefully at the first form.

Ask them what the color has done to the form. Then ask if they can make a color just like the color they see do the same thing. Check to see that the child can find the same form and mark it in the same way. Then lift up the end of the page and see if Mr. Bag Tag has followed directions. Check Mr. Bag Tag right or wrong. Use a smile for right and a frown for wrong.

This section is folded back.



Mini lessons which can be used by teacher, student or adult aide for reading reinforcement. These lessons are designed for an instructor and one or two children. Use words on these three lists for High Challenge children in the Merrill Linguistic Program.

Examples of word changing by substituting letters changing the beginning consonant:

cab gab jab lab tab

bad cad dad had lad mad pad sad

bag hag lag nag rag sag tag wag

bam dam ham jam mam ram

ban can fan man pan ran tan van

cap gap lap map nap rap sap tap

bat cat fat hat mat pat rat sat vat

bed fed led red wed

web reb

beg leg

bell dell fell jell sell tell

den hen men pen

bib fib nib rib

bid did hid kid lid rid

big dig fig jig pig rig wig

bill dill fill hill kill pill rill sill till will

dim him rim vim

bin din fin kin pin tin

dip hip lip rip sip tip zip

bit fit hit lit mit pit sit

fix mix nix six

bog cog dog fog hog jog log tog

cob bob fob gob job mob rob sob
cop hop lop mop pop sop top
dot got hot jot lot not pot rot tot
cub dub hub rub sub tub
bud dud mud
bug dug hug jug lug mug pug rug tug

Changing the ending consonant:

cab cad can cap cat
bad bag bam ban bat
dab dad dam
fad fan fat
gab gap
had hag ham hat
jab jag jam jaz
lab lad lag lap
mad mam man map
nab nag nap
pad pan pat
rag ram ran rap rat
sad sag sap sat
tab tad tag tan tap tat
van vat
bed beg bell bet
deb dell den
fed fell fen
get

hen hem

jell jet

led leg let

men met

peg pen pep pet

sell set

tell ten

web wed well wet

bib bid big bill bin bit

did dig dill dim din dip

fib fig fill fin fit

hid hill him hip hit

lid lip lit

mid mill mit mix

nib nill nip

pig pill pin pit

rib rid rig rill rim rip

sill sip sit

till tin tip

wig will wit

bob bog bop

cob cod cog cop cot

dog doll dot

fob fog

gob got

hog hop hot

job jog jot

lob log lop lot

mob moll mop

nob nog not

pop pod

rob rod

rub rug rut

sad sag sap sat

sell set

sill sip sit six

sob sod

sub sum sun sup

tab tag tam tan tap tat

till tin tip

tell ten

tog top tot

tub tug

wag wax

van vat

wig will win

Changing the vowel:

bad bed bid bud

bag beg big bog bug

bam bum

ban bin bun

bat bet but bit

cad cod

cab	cob	cub		
cap	cop	cup		
dab	dub	dib	deb	dob
dad	did	dud		
dig	dug	dog		
doll	dull	dell	dill	
dam	dim			
din	den			
fad	fed			
fat	fit			
fig	fog			
fan	fin	fun	fen	
gab	gob			
had	hid			
hag	hug	hog		
ham	him	hem	hum	
hat	hit	hot	hut	
lad	lid	led		
lag	leg	log		
lap	lip	lop		
let	lit			
mad	mid	mud		
mam	mum			
man	men			
map	mop			
nab	nub	nib		
nap	nip			

pad pod

pan pin pun pen

pat pet

rid red rod

rub rob rib

rug rig rag

ram rim

rat rut rot

sad sod

sat set sit

sap sip sup sop

tab tub

tan tin ten

tap tip top

tag tog

Lesson 1

Materials:
1. Rectangle of fine sandpaper for each child
2. Black crayon for instructor
3. Rectangle of light construction paper

Instructor is seated beside one child or between two children. Place sandpaper in front of each child. Write a word on the construction paper with crayon. Say the word carefully for the children while they look at it. Give the word card to a child and quickly make another for the other child. Each child traces over the word which the instructor has written on the construction paper saying the word as he traces it. Repeat this twice and then place the sandpaper on top of the word. Then each child traces the word on the sandpaper, again saying the word slowly. Repeat this twice and then go on to a new word with the same ending pattern - - cat, bat, cat, sat, etc. Do as many words as attention makes possible.

At the end of the lesson check with each word to see if the child remembers it visually. Those the child remembers, give the cards to him and send him back to his teacher or place. Tell the teacher those he did not remember.

Lesson 2

Materials:
1. Small chalkboards for teacher and children
2. Chalk for each child
3. Eraser for each child

Place a chalkboard in front of the teacher and each child. The instructor writes one of the patterned words such as bag on his chalkboard. Then the children will copy the word as the instructor repeats the word several times. Then the instructor asks,"What would happen if I erase ă and put ŏ in its place? That's right bog." If the children do not know the word give it to them. "Now erase the ŏ and put an ĭ in its place. What word is it? That's right, it's big." Again if the children do not know the word give it to them. Repeat with as many of the short vowels as are possible and still have words with meaning. Then repeat with new words for vowel substitution until attention is lost.

Lesson 3

Materials:
1. Small balls of clay for instructor and each child.

Place the clay in front of instructor and children. Then the instructor shows the children how to make their clay into long thin rolls. Then when each child has a long roll to work with, say one phoneme in one of the pattern words on the list. For example m-m in mud. Then help the children shape an m in front of them on the left. Next say ŭ in mud and help the children shape the ŭ if they need help. Next say the d and help the children shape the d being certain the word is progressing from left to right, the letters are in a correct orientation and that the word looks like a unit. Then say the phonemes isolated but close together and see if the children can syntehsize it into a discrete word. Then trace over the word in clay, say each sound from left to right , and then say the synthesized word. Repeat with as many words as attention or time will permit.

This lesson can be varied by using one color of clay for the consonants and another for the vowels.

Lesson 4

Materials:
1. Large sheet of paper to cover the entire area in front of teacher and children.
2. Two colors of crayon for each child and the instructor.

The instructor writes one of the ending word patterns in front of each child such as - at - with one of the colors. Then place an underline in front of the ending pattern with the other color __at. Then

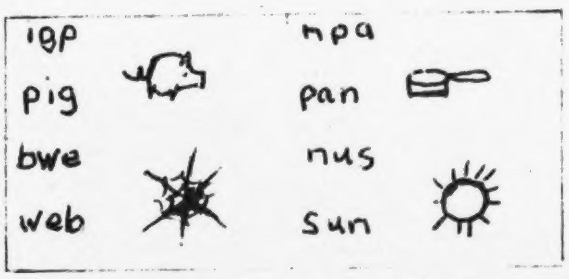
the instructor asks the children what would we put on the beginning - the left - of this to make the word m m - mat. When the m has been placed on the underline, say the word with the children. Then directly underneath mat - mat
_at - make the same ending pattern with one color and an underline of another color. Then ask the children to make the word s-s-sat. After the s has been placed in each blank, say the word again for the children. Continue making new words with the children as long as time and attention permit. bat - fat - hat - pat - rat - tat - the instructor should be very careful to place the words directly underneath each other to reinforce the concept of word building.

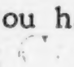
When the lesson is completed the instructor should ask each child to read down the list again reinforcing word building patterns and in this case their rhyming aspects.

Lesson 5
Materials: 1. Large chalkboard
2. White and yellow chalk
3. Eraser

Children are standing at the large chalkboard. Instructor is behind them. The instructor asks the children to write the word bat. If they can't,write the word above them on the chalkboard for them to copy. The instructor says, "What would you do to make bat say bag? That's right, change the ending sound, the t to a g. Erase the t and put a yellow g in its place. What does it say now? That's right bag." Then the instructor repeats the same procedure changing bag to bad, bad to bad to ban, ban to bam. Continue as long as time and attention permit. As the children end the lesson flash the words to the child to test their memory.

Lesson 6
Materials: 1. 8" x 10" paper divided into 4 parts
2. Black crayon for the instructor
3. Box of crayons for the children



The instructor will prepare the paper this way before the lesson starts. The instructor points to box number 1 and says, "This word says pig." Hopefully the children will say, "No it doesn't." If not she points to each of the letters in their scrambled order and says pig. If the children still do not have the idea the instructor should say, "This word pig has been all mixed up. How can we put it in order? What should come first? That's right, p-pp. Let's write the p on the left underneath the scrambled word and put a mark through the p in the scrambled word. Now what do you hear next in pig? That's right i. Lets put it right after the p and then put a mark through the i in the scrambled word. Now what is the last sound in pig? That's right, the only letter left is g. Put a mark through the g in the scrambled word. Now put a g after the i and you have finished writing the word pig." Draw a little picture of a pig  beside the word. This lesson is particularly good to help children learn to close (effect closure) an activity.

Lesson 7

Materials:
1. Typewriter (preferably primary type)
2. Typing paper

(This lesson is for the instructor and one child).

Seat the child in front of the type. Help him find ă, ĕ, ĭ, ŏ, and ŭ. Then help him find s-s-s, m-m-m, z-z-z, f-f-f, t-t-t, l-l-l, n-n-n, r-r-r, and j-j-j. Refer to each of these letters by sound instead of name. When the child has practiced for a little while, he can begin to spell words with the instructor giving as much help as is necessary. The instructor tells the child they will spell "MAN" together. Then she asks, "What sound do you hear first? That's right m-m-m. Now hit the key with m-m-m on it. What sound do you hear after m-m-m? That's right a. Now hit the key with a on it. What sound do you hear after a? That's right n-n-n. Now hit the key with n-n-n on it. What does the word say? That's right "MAN". Hit the long bar at the bottom and make the word man again, thinking it as you type it." (Anytime the child cannot answer a question after some encouragement, supply him with the answer).

Continue with other words on the word patterns list as long as time and attention permit. Then close the lesson by asking the child to repeat each word he has typed.

BIBLIOGRAPHY

Coffman, Alice O., ed. *Activities for Building Concepts of Logical Thinking*. University City, 1968.

Coffman, Alice O. *Language Experiences*. University City, 1968.

Engelmann, Siegfried and Elaine C. Bruner. *Distar Reading*. Chicago, 1969.

Fernald, Grade M. Remedial Techniques in Basic School Subjects. New York, 1943.

Fries, Charles C., Agnes C. Fries, Rosemary G. Wilson, and Mildred K. Rudolph. *Merrill Linguistic Readers*. Columbus, 1966.

Kimmell, Geraldine M. "Using the Neurological - Impress Remedial Reading Technique," *Academic Therapy Publications*. San Rafael, 1969.

Skinner, Ettalily. *Reading, A Process*. Tulsa, 1970.

Whitehead, Alfred North. *The Aims of Education*. New York, 1929

Woodcock, Richard W., Charlotte R. Clark, and Cornelia Oakes Davies. *Peabody Rebus Reading Program*. Mineapolis, 1969.

MATHEMATICS DEVELOPMENT

In planning a math program which will help the High Challenge child, five main points should be considered:

1. A mathematics sequence should be available and used. All good math series have them.
2. Math should be taught everytime the opportunity arises. (Language experience math).
3. Specialized materials should be available which make allowances for the characteristics of the High Challenge child.
4. Specialized techniques should be available, when the child is not learning.
5. The motor base should be found if the problem is persistent and ingrained.

The sequence of skills is of particular importance if an ungraded math program is in operation or if team teaching is in effect to individualize the math program within time available. This sequence allows for a more flexible program with continuous growth for the student. The sequence which is suggest in this section is minimal. It has been kept to a minimum in order to make it part of an IBM card with which a teacher can keep accurate information on the child's progress level. More detailed sequence charts are available from Houghton Mifflin Company. These charts have been specifically set up for the teacher's use in a nongraded situation.

To the teacher of the High Challenge child, the non-graded math program offers this child the best chance for the rewards or success. He does meet failure as everyone must, but not in any instance the amount of failure he could be bombarded with in a classic whole class math lesson. The Elementary School Mathematical Resource Handbook for Teachers, prepared by a committee from Tulsa Public Schools, has an excellent statement on pages 2 - 5, delineating the problems of providing for individual differences, possibilities for grouping, and diagnosis.

The Handbook contains a diagnostic instrument for determining readiness for first grade number book. Parts of the chapters on Sets 19 - 30, Numeration 34 - 46, and 61 - 63, Systems of Whole Numbers 76 - 104, Rational Numbers 159 - 164, Measurements 189 - 195, Geometry 212 - 214, Special Topic 233 - 237, and the entire chapter called "The Learning Environment" can be used to gather ideas for working with High Challenge children.

When a sequence is available and has become a part of the teacher's overall knowledge, then when opportunities present themselves for math learning, she can either expose the children to new concepts which appear later or reinforce learnings which have already been presented.

An abbreviated math sequence which could be referred to:

1. Can walk, march, skip in rhythm.
2. Can repeat clapping sequences.
3. Can match objects one to one (point to objects in rhythm when counting).
4. Can identify objects by size, color, and shape.
5. Can identify sets with more and less.
6. Can rote count to 10.
7. Can rote count to 20.
8. Can identify numerals by name.
9. Can order numbers and sets.
10. Can match sets to numerals.
11. Can match penny, nickel, and dime to sets.
12. Can write numerals through 5 (without reversals).
13. Can write numerals through 12 (without reversals).
14. Can construct sets and write numerals in order through 12.
15. Can use a ruler to measure objects.
16. Can identify the plus sign.
17. Can identify the equal sign.
18. Can identify the minus sign.
19. Can find the sum in simple addition problems using concrete manipulative objects.
20. Can find the difference on simple subtraction problems using concrete manipulative objects.
21. Can find a missing addend using concrete manipulative objects.
22. Can find the missing subtrahend using concrete manipulative objects.
23. Has begun to make some complete number sentences a part of his memory.

24. Has functional understanding of place value

a. Can recognize differences

81 - 18
72 - 27
94 - 49

Ideas for activities and times when math is available to be taught are:

1. Graphs about science, clothes, toys, lunches.
2. School toyshop, grocery store, etc.
3. Sets of paints, brushes, etc. in art.
4. Sets of books, pencils, etc. equivalent to children.

Specific mini-lessons can be taught as a part of the language experiences of the children. They can also be taught by volunteer aides, paraprofessionals, or parents.

In explaining place value, two devices make it seemingly easy to get the concept across. First correlate the concept with dimes, pennies, and cuisenaire rods and second, set up a good story to correlate with a simple one to one number system.

MATH MINI LESSONS

Lesson I

Exposure:

1. Correlation of ten fingers and base ten
2. Left and right
3. Place value

Materials:

1. Chalk - chalkboard

Tell the children a funny story about the reason we begin over again in counting each time we reach another ten.

Once upon a time, a long, long, time ago there was a very rich man. He had lots of cows, lots of sheep, lots of camels, and lots of children. But he was in trouble. He didn't know how many cows, how many sheep, how many camels, or how many children he had, because he had no numbers. In fact, he didn't have any idea what numbers were.

Still he liked being rich. He wanted to keep all his cows, sheep, camels, and children. So he decided this. Everytime, his cows, and sheep went out to eat grass, his camels went on a trip, or his children went out to play, he would match them to his fingers on the way out, and to the same fingers on the way back in.

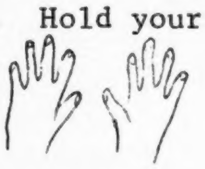
So that is just what he did. It worked fine for the children because they matched this many fingers 1 1 1 1 1 1 . It worked fine for the camels because they matched this many fingers 1 1 1 1 1 1 1 1 1 . But he was in trouble with the sheep because he needed this many fingers 1 1 1 1 1 1 1 1 1 1 1 . Uh, oh, how many fingers did he have? ____ That's right, most every man who ever lived has 1 1 1 1 1 1 1 1 1 1 (10) (don't count, just mark on chalkboard) fingers. He was in even more trouble when his cows left, because he needed 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 (22) this many fingers and remember, he only had this many 1 1 1 1 1 1 1 1 1 1 (10).

So he had to think of a good way to solve his problem. He thought and thought and in the meantime, he lost one of his cows (erase a line). That made him angry so he thought so hard he got a very good idea.

This was his idea. "Every time I match the things I own to all of my fingers, I'll make a mark to stand for my hands full. And since I used to have to match to my toes to go above this many 1 1 1 1 1 1 1 1 1 1, I'll make a shape which looks like my heel bone ∩ to stand for my hands full or this many 1 1 1 1 1 1 1 1 1 1 (10)."

Now the smart, rich man could keep a good count of his cows, and sheep as well as his camels and children. Because each morning as the sheep left their pen, he would match sheep to his fingers and then when all the fingers were used up, he would mark his heel bone on the ground ∩ and he would begin matching all over again.

Together lets match sheep to fingers as they come home to the pen and put a heel bone mark everytime hands full are used up. Hold your hands up like this and move your fingers one at a time. Now we have used up a hands full, let's make our heel bone ∩ . How many sheep are left? That's right, this many 1. So now the very wise man could write with his stick in the dirt and know that all his 1 1 1 1 1 1 1 1 1 1 1 (11) sheep were home safe.



Let's try to do what this very wise man did with his sheep, except we will count his cows that way. Here are the cows 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 (21). Let's match the cows to our fingers and each time we use up our hands full, we will put a mark to stand for our heel bone. Turn your hands toward you and move one finger at a time until we have matched a finger to each cow. 1 1 1 1 1 1 1 1 1 1 (10) that's a heel bone. Let's draw it. 1 1 1 1 1 1 1 1 1 1 (10) that's another heel bone. Let's draw it. Now how many are left: That's right, 1. Now let's write the very wise man's numbers for this many 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 (21) cows. ∩∩1.

Tomorrow we will find out how this very wise man and his numbers are like the numbers we see every day.

Lesson II

Exposure:

1. Place value
2. Correlation of ten fingers and base ten
3. Left to right progression

Materials:

1. Chalk - chalkboard
2. Play money dimes and pennies
3. Pencils
4. Black lined paper

Do you remember the sign the wise man thought of to stand for hands full, this many (hold up both hands with fingers extended)? Yes that's right ∩ the heel bone. What do we say when we want to talk about this many (fingers extended)? That's right 10. Can you write 10. Good.

What did the wise man write when he talked about this many (extend one finger)? That's right 1, a stick to stand for each finger. What do we write when we talk about this many (extend 2 fingers)? And this many (extend three fingers)?

Well, we have really made numbers easier to work with than they were for that wise man long ago. When he wanted to write ninety-nine he had to make 9 heel bones ∩ ∩ ∩∩∩∩ ∩∩∩ and 9 sticks 1 1 1 1 1 1 1 1 1 and all we have to do is write 99, because the place the numeral is sitting tells us just what it's worth.

Let's practice counting and writing the numbers I give you. (Each new problem will follow the same format).

Put your pile of money (dimes and pennies - all children are checked to see if they know that dimes are 10 and pennies are 1) on the left side of your paper. Now place 1 dime and 7 pennies across the top of your paper going from left to right. Be sure the dime (ten) is first. How many dimes are there? 1. How many pennies are there? 7. Good. Let's write the 1 first to stand for 1 ten or 1 dime. Let's write the 7 next to stand for 7 ones or 7 pennies. Now who can read the number we have made. (All children would count and recognize numerals to 30). Again listen and then point to your money and repeat what I say.

1 ten and 7 ones is 17. (same format for each new numeral)

21
19
15

16
25
18

22
11
14

12
15
13

SOME IDEAS FOR MINI LESSONS WITH CUISENAIRE RODS:

Lesson III

Exposure:

1. Cuisenaire rods
2. Equivalency
3. Sets
4. Ordered numbers
5. Cubes
6. 5 + 5 = 10

Materials:

1. Cuisenaire rods

Place a box of cuisenaire rods in front of each child. First allow them to manipulate them randomly. After a few minutes ask the children to find the smallest rod of all. When they have, ask them to find all the rods that are this size and move them to their left side. Tell the children, "From now on we will always call this one, 1. If this is one, can you find the rod we will call 5. Can you fine the one we will call 2, 4, 6, 8, 3, 10, 7, and 9?" Compliment the children and reinforce the concept of measuring by ones to find equivalency.

Then hold up the yellow rod which is 5. Lay two of them together and ask, pointing to each in turn. What is this? Yes 5. Who can find a long rod which is equivalent (the same size) to these 2 yellow rods. Yes, the orange ten. Can anybody say a number sentence we have learned which this shows us? Good 5 + 5 = 10.

Now one last thing to do with our blocks. Put them in order starting at the left with one. The rods should look like stairs. Now, let's count them first from left to right and then from right to left.

1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10   10 - 9 - 8 - 7 - 6 - 5 -4 - 3 - 2 - 1

Lesson IV

Exposure:

1. Cuisenaire rods
2. Equivalency
3. Sets
4. Plus - equals

Materials:

1. Cuisenaire rods
2. Large table
3. Brown wrapping paper
4. Crayons

Cover tables with large sheets of wrapping paper and fasten with masking tape. Each child has a box of cuisenaire rods and an assortment of crayons. Then all around their place on the table the children write number sentences after they have seen the equation via the cuisenaire rods. For example by laying a rod 2 cc long and another 1 cc long together they can be matched with another rod 3 cc long.

The following problems should give examples of possibilities which the children could use.

1 + 1 + 1 = 3
2 + 1 = 3
1 + 2 = 3
3 = 3

1 + 1 + 1 + 1 = 4
3 + 1 = 4
2 + 2 = 4
1 + 3 = 4
4 = 4

Lesson V

Exposure:

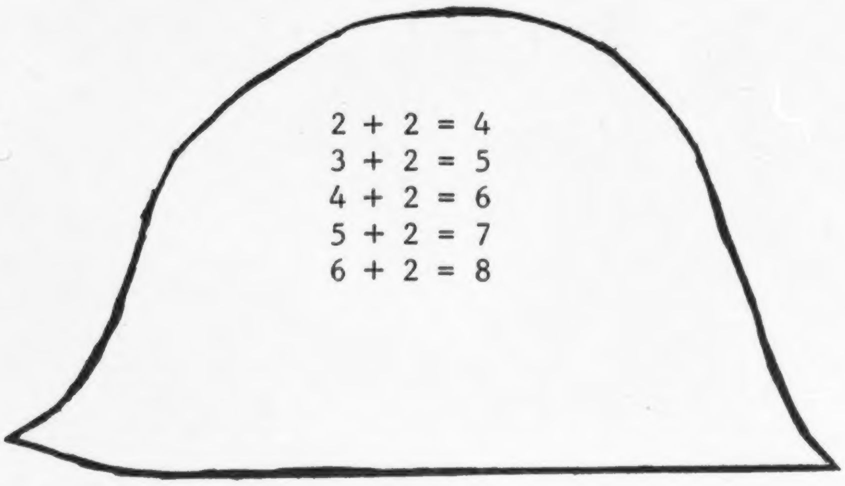
1. Cuisenaire rods
2. Equivalency
3. Sets
4. Plus - equals
5. Eye-hand coordination (cutting)

Materials:

1. Cuisenaire rods
2. Large table
3. Brown wrapping paper
4. Crayons - 8 colors

Cover tables with large sheets of wrapping paper and fasten with masking tape. Each child has a box of cuisenaire rods and an assortment of crayons. All around their place at the table the children can write equations after they have "seen" the equations via the cuisenaire. Use only the eight cuisenaire rods which match the eight colored crayons. Especially do pattern problems such as add on 2.

When the work is completed for the day the children cut out their own work.



Lesson VI

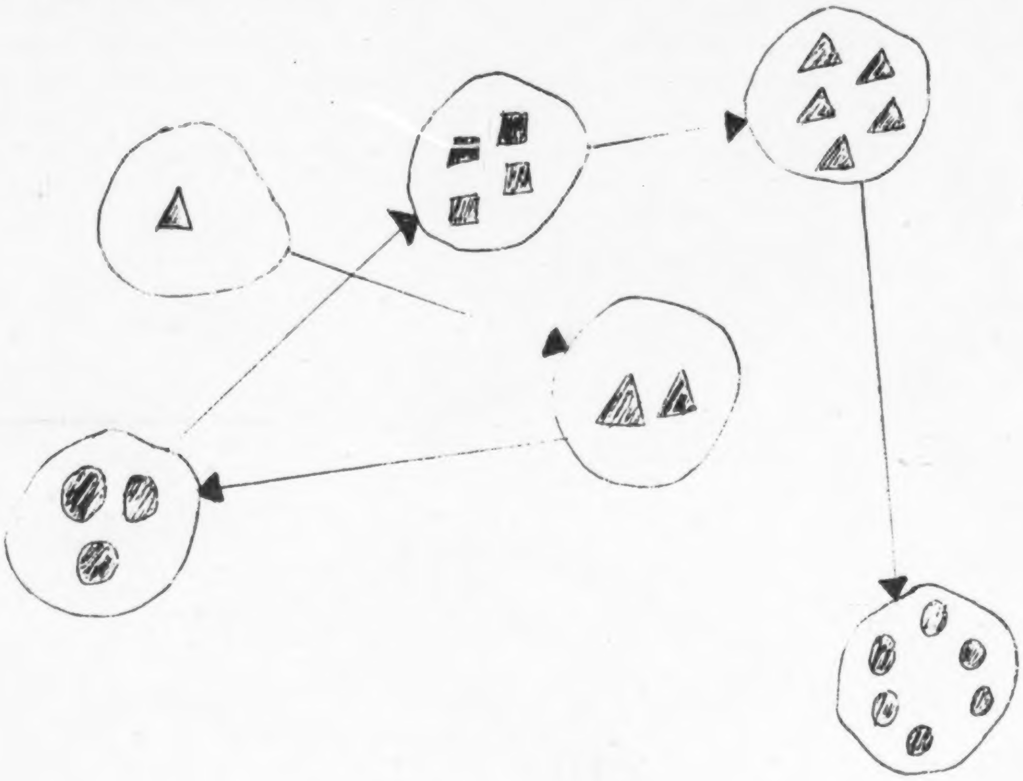
Exposure:

1. Ordering sets
2. Cuisenaire rods
3. Ordered numbers
4. Figure ground perception

Materials:

1. Large tables
2. Brown wrapping paper
3. Crayons - all colors
4. Six cuisenaire rods

Cover table with brown paper. Give each child six cuisenaire rods 1 - 6. Give each child eight crayons. Then begin. Hold up the cuisenaire rod for one, then ask the children. How many does this stand for? Then hold up all six rods one at a time in random order. As the children find the rods asked for and identify the number it stands for, they draw an equivalent set with a corresponding color anyplace on their work area. Specify the shape to be used in the set. When all size sets have been drawn, the children order the six sets by drawing arrow lines with black crayon from set to set.



Lesson VII

Exposure:

1. Ordinals - first, second, third, fourth
2. Perceptual constancy of form
3. Directionality
   2 - 3 - 4 - 5 - 6 - 7 - 9 - 10
4. Ordered numbers
5. Fine motor activity

Materials:

1. Brown paper to completely cover work table.
2. Purple, blue, green, yellow, orange, red, brown, black crayon, one for each child around the table in that order.
3. Cuisenaire rods

The teacher directs the children to write the numeral 1 on the paper in front of them/you, and place the corresponding cuisenaire rod beside it. Then continue asking for all numerals from 1 to 10 out of order. The teacher checks each numeral as to correct form and direction. Walk around the table saying - the first child is right. The second child is right, etc.

When the numerals are checked, each child is told to order his numbers, beginning with 1. The crayons are used to draw lines ordering the numbers. Then the children take turns counting - first, second, third, fourth, etc. Then each child is given scissors and cuts out his own work for the day.

These kinds of following directions lessons can be written up for any special day. For example, Jack-O-Lantern can expose to the concept of triangles.

Lesson VIII

Exposure:

1. Counting by 2
2. Triangle - word and shape
3. Rectangle - word and shape
4. Circle - word and shape
5. Following directions
6. Left and right
7. Colors

Materials:

1. 8" x 11" paper
2. No-roll crayons - black, green, red, yellow, blue, purple

Begin with paper and crayons in front of each child. The children will place their crayons on the left side of their paper (standard operating procedure). Then they will begin to follow directions. The teacher checks constantly for accuracy.

1. Turn your pages this way.
2. Point to the top left corner and write l with your black crayon.
3. Point to the top right corner and write r with your black crayon.
4. Pick up your green crayon. Now put a dot right here on your page and make a triangle just like mine. What will this triangle be?
5. Keep your green crayon. Now put a dot up here on your page and make another triangle just like mine. How many green triangles are there? What will the triangles be?
6. Using your green crayon, write the numeral 2 under the letter l standing for left on the left side of the page.

7. Now pick up your red crayon. Write the numeral 4 on the left side of the page under the numeral 2. Now look, 4 circles. How many red circles will go on each triangle? That's right, two. Draw two red circles on each triangle.

8. Now pick up your yellow crayon. Write the numeral 6 under the numeral 4. Now look, 6 circles. How many yellow circles will go on each triangle? That's right, three. Draw three yellow circles on each triangle.

9. Now pick up your blue crayon. Write the numeral 8 under the numeral 6. Now look, 8 circles. How many blue circles will go on each triangle? That's right, four. Draw four blue circles on each triangle.

10. Now pick up your purple crayon. Write the numeral 10 under the numeral 8. Now look, 10 circles. How many purple circles will go on each triangle? That's right, five. Draw five purple circles on each triangle.

11. Write your names on the back and give me your papers. Tomorrow we will write some number sentences, equations, to go with our Christmas trees.

Lesson IX

Exposure:

1. Counting by two
2. Doubles in addition (equations)
3. Number sentences (equations)
4. Following directions

Materials:

1. Page with two Christmas trees from the previous lesson.
2. Empty sheet of paper 8" x 5½"
3. Crayons - orange, green, red, yellow, blue, purple, brown.

Using the Christmas tree pictures from lesson VIII, using the balls on the trees, the children look for number sentences suggested there and then write the sentences (equations) from top to bottom and from left to right. Begin by asking, how many trees do you see? What color are they? What shape are they? Can you think of a number sentence which the trees show us? Good, write 1 + 1 = 2 with your green crayon.

Now look at the red balls on the trees. How many are there in all? That's right, four. How many are on each tree? That's right, two. Can you think of a number sentence which the red circles show us? Goods, now write 2 + 2 = 4 with your red crayon.

Now look at the yellow balls on the trees. How many are there in all? That's right, six. How many are on each tree? That's right, three. Can you think of a number sentence which the yellow circles show us? Good, now write 3 + 3 = 6 with your yellow crayon.

Now look at the blue balls on the trees. How many are there in all? That's right, eight. How many are on each tree? That's right, four. Can you think of an equation (number sentence) which the blue circles show us? Good, you knew what an equation was. Now write 4 + 4 = 8 with your blue crayon.

Now look at the purple balls on the trees. How many are there in all? That's right, ten. How many are on each tree? That's right, five. Can you think of an equation (number sentence) which the blue circles show us? Good, now write 5 + 5 = 10 with your purple crayon.

When the children have completed the directions they take turns reading the equations as the teacher says; Read the red equation. Read the yellow equation, etc.

Lesson X

Exposure:

1. Fractional parts ½
2. Diamond shape
3. The word divide
4. Circles
5. Triangles
6. Following directions

Materials:

1. Yellow construction paper
2. Red, blue, green crayons
3. Scissors
4. Cardboard stencils

The children will start with a piece of yellow paper folded into half. On one side they will draw a circle in red, divide it into half and color one half a very dark red. They will draw a diamond in green, divide into half, and color one half a very dark green. Then they will draw a triangle in blue, divide it into half, and color one half a very dark blue. The directions are as follows:

1. Pick up your red crayon. Draw a circle on the left half of your page just like mine.
2. Now draw a line to divide the circle into two equal parts. Watch me. Do you see that the side is just the same size as this side? ◐
3. Now color one side red, a very, very, dark red. The red side is called ½ and the yellow side is called ½. Let's write ½ on the right half of our page.
4. Pick up your green crayon. Watch me carefully. Draw a diamond on the left side of your page just like mine
5. Now draw a line to divide the diamond into two equal parts. Watch me. Do you see that this side is just the same size as this side?
6. Now color one side green, a very, very dark green. The green side is called ½ and the yellow side is called ½. Write ½ with your green crayon on the right side of your page a few times. ⬖
7. Pick up your blue crayon. Draw a triangle on the left side of your page just like mine.
8. Now draw a line to divide the triangle into two equal parts. Watch me. Do you see that this side is just the same size as this side.
9. Now color one side blue, a very, very dark blue. The blue side is called ½ and the yellow side is called ½. ◭
10. Now let's write ½ in blue in lots of places on the right side of our paper, wherever we can find room.
11. Pick up your scissors and cut out the circle first, the diamond second, and the triangle third. Now cut down the center dividing line.
12. You can take these shapes home now and they can be ornaments for your tree.

Lesson XI

Exposure:

1. Fractional parts ¼
2. Oval shape
3. Circle shape

Materials:

1. Yellow construction paper divided into fourths
2. Red, green crayons
3. Scissors

The children will draw a circle and an oval. The circle will be outlined in red and divided into fourths and the opposing fourths will be colored a very dark red. The oval is green and the same directions are followed.

1. Watch me. Pick up your red crayon. Start in the top left section of our page and draw a circle just like mine.
2. Now draw a line through your circle from left to right like this ⊖ and a line from top to bottom like this ⊕ .
3. Now watch me carefully. Color the top, left part of your circle a very, very dark red. Now point to the parts and say with me one fourth, one fourth, etc. Color the bottom, left part red.
4. Now let's write ¼ beside our circle. It means 1 of 4 equal parts. Let's count the ¼ ths. we see in the circle. Good, there are 4 ¼ths. Write ¼ with red as many times as you can.
5. Now pick up your green crayon and draw an oval in the bottom, left part of your page. Do you know what an oval is? Well look, it is taller than it is wide or it is wider than it is tall 0 ⬭ . Since we are making ornaments, let's make the oval taller than it is wide just like mine. Start at the top and come around like this. ↺0
6. Now draw a line through the oval from left to right θ making each side just the same size. Now draw a line from top to bottom ⊕ making each side just the same size.
7. Now watch me carefully. Color the top, left part of your circle a very, very dark green, and now the bottom right part of your circle a very, very dark green. Now, point to the parts as I do and say with me. One fourth, one fourth, etc. Good.
8. Now write ¼ with your green crayon on the bottom, right part of your page as many times as you can.
9. Now pick up your scissors and cut out your circle and your oval. You can also cut down this line and take your ¼ ths. with you.
10. Take home your oval and circle and use them as ornaments. Tell your mother each part is ¼.

This is a way to reinforce the addition concept:

Lesson XII

Exposure:

1. Beads for counting
2. Blue and yellow make green
3. Plus - equals
4. Add on one

Materials:

1. Prepared worksheet
   1 + 1 = ____
   2 + 1 = ____
   3 + 1 = ____
   4 + 1 = ____
   5 + 1 = ____
2. Blue, yellow, green colored beads
3. Blue, yellow, green crayon
4. Shoestring
5. Blue and yellow paint

Teacher sets up a correlating concept, by mixing blue paint and yellow paint and making green paint.

The teacher places crayons, shoestrings and box of beads in front of each child. They begin by stringing 1 + 1 = 2, 1 blue plus 1 yellow equals 2 green.

Then through the following problems, taking turns writing the equation on the chalkboard:

1 + 1 =
2 + 1 =
3 + 1 =
4 + 1 =
5 + 1 =
6 + 1 =
7 + 1 =
8 + 1 =
9 + 1 =

The same correlation can be made using red and yellow paint to make orange as blue and yellow paint to make green. The pattern can then be used consistently with all addition.

The following Mini-lesson is an example of a way in which a child can learn the directions of the numerals and constancy of numeral form.

Lesson XIII

Exposure:

1. Constancy of form
2. Numeral and set for 2
3. Directionality of 2

Materials:

1. Chalk and large chalkboard
2. Newsprint cut into long thin sheet
3. Purple crayon
4. Sandpaper (or velvet, rug, corduroy, etc.)

First the instructor writes the numerals 0 to 10 across the chalkboard. The child counts from 0 to 10 across the chalkboard using a rubber tipped pointer to touch numbers as he says them. Then the 2 is circled. Each child then rewrites it on the chalkboard close to the circled 2. Materials are passed out and placed in front of each child, crayon to the left, newsprint in front and then sandpaper above. Each child writes the numeral 2 and the teacher checks for reversals. Then they trace 2 on sandpaper. Then write 2 again and trace on sandpaper. The teacher helps each child trace the 2 on the sandpaper numerous times. Following this the children fill their page with the numeral 2, big, middle-sized and little till there is no room left to reinforce the perceptual constancy of 2. Then the children go to the chalkboard to write more twos, being careful not to reverse them.

This type lesson can be repeated for all numerals, including those with two digits, which have a specific directionality. The color of crayon can be changed, or more than one color can be used to reinforce constancy of form.

A number line on the floor and another on the wall at the child's height is a tremendous help for the High Challenge child. With these they can use the DISTAR technique of counting from.

Lesson XIV

Exposure:

1. Concept of left and right
2. Left to right progression
3. Numerals
4. Counting
5. Counting from

Materials:

1. Chalk and chalkboard big enough for all children
2. Number line on floor

Use counting line on floor and chalkboard to review one to ten words and numerals. Write on chalkboard together for half of the period writing and naming the numerals, and then spend some time counting from on the number line. Counting from means to begin with one number and count to another. For example counting from 5 to 10 would be a concept which develops an understanding of 5 + 5 = 10. The child elongates 5 fffiiivvve and quickly counts ending with 10. This technique limits perseveration in the High Challenge child who would tend to count all the way through the first five hurting his efficiency.

Writing and naming the numerals, direct the child to:

Go to 6. Stand on your left foot and count to 10 as you walk the line. sssixxx 7, 8, 9, 10.

Go to 3. Stand on your right foot and count to 7 as you walk the line. thththreeee 4, 5 6, 7.

Go to 2. Stand on your left foot and count to 8 as you walk the line. tttwoooo 3, 4, 5, 6, 7, 8.

Repeat until lesson period is over.

Some Mini-lessons for finding math in daily activities.

Lesson XV

Exposure:

1. Sets
2. Colors and color words
3. More and less
4. Graph form
5. Numerals and number words
6. Left to right progression
7. Body concept

Materials:

1. Large sheet paper
2. Gummed circles
3. Number line on floor 0 - 10

Children are exposed to the overall concept of more and less, by constructing a graph after the children choose their favorite colors. Gummed colored circles are used - red, orange, yellow, green, blue, and purple. The children use the color they have chosen to construct the graph. As the graph is constructed the color words and number words are reinforced. Also the numerals which are used will be reinforced. The graph progresses from left to right. When the numbers are discovered, they are placed from left to right on the chalkboard within set holders in order from smaller to larger, less to more. Then the children find the numeral on the number line on the floor which correspond to the numbers on their graph. When the numbers are consecutive enough the children walk the numbers on the line. Then they count to ten and count from until the class is over. (Count from means to start with a number larger than one and end at a specified point - preaddition).

Lesson XVI

Exposure:

1. Numerals numbers sets
2. Left to right progression
3. Gross motor skills
4. Counting
5. Counting from

Materials:

1. Graph and experience story made during previous lesson.

Review the graph which was made in the previous lesson. For example if the numbers which the graph contained were 1-2-3. Review one-two-three, 1-2-3, red-orange-yellow-green-blue-purple. Then read an experience story about the work done the day before. The teacher holds up her fingers to make sets and the children find the corresponding numeral on the number line on the floor. Then for the rest of the period the children will count from, tiptoeing, marching, and walking.

The teacher will say: Count from 6 to 10, March.
sssiiixxx 7-8-9-10.
Count from 4 to 8, Tiptoe.
fffourrr 5-6-7-8.

The graph ideas came from a set of books published by the Nuffield Foundation. They are descriptions of projects completed by children in The British Infant Schools. Many other opportunities for language experience math are included in the books Beginnings, Mathematics Begins, and Pictorial Representation which are listed in the bibliography. These books are from a British Infant School and delineate the philosphy of the school as it is carried through in mathematics.

NUMBER LINE SEQUENCE *

Also with a number line on the floor, these activities can be used to add movement to number learning.

Name Level

1. Walk the line saying the numerals.
2. Walk the line left over right, saying the numerals.
3. Hop the line saying the numerals.
    a. Hop first on one foot then the other.
    b. Two hops on one foot and two on the other.
    c. 3 hops on one foot and 3 hops on the other.
4. Tiptoe the line saying the numerals.
5. March the line saying the numerals.
6. Stand the children in the center of the line for picking out individual numerals out of order.
    a. Direct the child to find 21 - 16 = 2, etc.
    b. Direct the child to find series of numerals, this time in order of numeral.
        (1) Series of two numerals 2 - 4.
        (2) Series of 3 numerals 2 - 4 - 6.
        (3) Series of 4 numerals 2 - 4 - 6 - 8.
7. Show card of numeral and have them stand on the same numeral (Concept Level).
    1. Show the child a picture of a certain number of objects and have him stand on that numeral.
    2. Orally "Stand on the numeral that means one more than _____."
    3. Find the numeral that mean one less than ______.
    4. Find the answer to this equation 2 + 2 = ______, etc.
        a. Have children verbalize equation.

5. Have the children find a combination for numeral
    a. Find a plus (addition) combination for 6, 2, 8, etc.
    b. Find a take away (subtraction) combination for 2, 1, 3, etc.

* Sequenced by Irma Richison

The Science Research Associates program, Distar, has been used for children in the High Challenge classroom. It is too early to state positively as to their success. The program was designed with the High Challenge child in mind. "The Distar systems are designed to teach basic concepts at a fast pace so that children who start out behind average youngsters can catch up . . . . The Distar presentation materials indicate what teachers should say and when they should say it, what they should do and when they should do it."

Some ideas from Distar which have been particularly useful are:

1. Counting from - beginning with a number in an equation, holding it and then counting on to find a sum. Can be done on a number line on the wall or on the floor. Cuisenaire rods and dimes and pennies can also be used for this.
2. Signals designed for attending to task - actually involves the child motorically in the format.
3. Reinforcement is programmed, correct responses always praised, and mistakes always corrected immediately as a part of the format.
4. The 10 plus method of teaching place-value has been particularly successful.

There are many good readiness books available. Most of them are kindergarten workbooks, but would be excellent for math concept development. Many of the words listed below are included in the readiness books. Even without readiness books in Math these words should at least be a part of the child's receptive vocabulary.

TEMPORAL RELATIONSHIP WORDS

clock
second
minute
hour
calendar
day
night
month
year
late
later
latest
slow
slower
slowest
fast
faster
fastest

day ago
o'clock
winter
summer
spring
fall
morning
afternoon
noon
own age
time by hour
own birthdate
before
after

SPATIAL RELATIONSHIP WORDS

First Level

up
down
on
in
to
with
by
back
front
top
bottom
out
side
from
next

Second Level

after
before
beside
above
atop
around
before
beginning
behind
below
between
corner
end
high
low
inside
last
left
right
middle
outside
over
under
within
without

Third Level

about
across
against
along
among
apart
beneath
close
Closer
closest
Cross
facing
far
farther
farthest
first
second
third
fourth
join
longest
middle
near
nearer
nearest
order
part
past
point
shortest
together
toward
underneath
diagonal
direction
opposite
position
section
slant
tilt
vertical

QUANTITY AND MEASUREMENT CONCEPTS

another
both
double
twice
each
enough
large
larger
largest
heavy
heavier
heaviest
little
littler
littlest
less
many
more
most
much
thick
thin

part
whole
empty
full
none
pair
tall
taller
tallest
short
shorter
shortest
long
longer
longest
high
higher
highest
increase
some
all

great
greater
greatest
dozen
inch
foot
yard
measure
acre
half
pound
quart
weigh
few
fewer
fewest
small
smaller
smallest
low
lower
lowest

ECONOMIC TERMS

but
sell
change
cost
earn
price
spend

worth
cent
penny
dime
nickel
quarter
half dollar

money
coin

GENERAL MATH VOCABULARY

Numeral
number
set
join
add

subtract
plus
order
minus
equals

count
circle
triangle
rectangle
square

BIBLIOGRAPHY

Engelmann, Siegfried and Doug Carnine. *Distar Arithmetic*. Chicago, 1969.

Gillett, Thelma, Maxine Graff, Mary Mitchell, Carmen Mistler, Joan Seal, Dale Edmond, Pocahontas Greadington, Laura McCall, and Bruce Howell. *Elementary School Mathematics: A Resource Handbook for Teachers*. Tulsa, 1970.

Matthews, Geoffrey, ed. *Nuffield Mathematics Project*. New York, 1968.

SCIENCE DEVELOPMENT

Science consists of content and process. The facts of science-content are fun to learn, but above all for the High Challenge child is the process of science, learning a way to learn, a way of thinking and working. The process of directed inquiry allows the child to observe, measure, classify, predict, infer, interpret, and experiment, and acquaint him with the space he occupies, his world, in a way that a memorization of facts never can.

The publication of the Tulsa Public Schools entitled Science Inquiry for Kindergarten and Primary which was written by a committee from the Tulsa Public Schools is structured to enable the child to become aware of his world. The "High Challenge" child in particular needs this awareness. He is often not even aware of the limits and uses of his own body. His surroundings are even more vague. This science guide, correlates with mathematics and systematically structures the child's ability in the cognitive and perceptive area. The lessons are designed to develop creative judgment, problem solving and independent thought, all areas in which the "High Challenge" child is weak. The lessons are explained in enough detail to make them useful as small lessons for one or two children and a volunteer aide.

Also suggested in this guide is a complete science program produced by Xerox and called Science - A Process Approach. It also places mathematics under the broad umbrella of science

The areas covered in this program are again those which can be invaluable in the development of the High Challenge child, to show up any deficiencies in the perceptive area.

These lessons can also be taught with an instructor and a very small group. They are detailed lessons which leave nothing to chance, although there is always room for the creativity of child or instructor. They are sequenced into instructional hierachies in which one lesson depends upon and builds upon the one before.

The basic science (and math) areas covered which are appropriate to the primary child are as follows:

1. Observing.
2. Using Space/Time Relationships.
3. Using Numbers.
4. Measuring.
5. Classifying.
6. Communicating.
7. Predictive.
8. Inferring.

A terminal lesson is included for closure and hopefully generalization when the end of each process is reached.

All that might be added for the High Challenge child to well-planned and developed programs such as these is more direction. They need to be led to discoveries many times before they can discover on their own.

1. In observing, the teacher needs to bring all the child's senses into the operation because often one of these senses is impaired on a perceptual level.

2. In using space and time relationships, the teacher must be certain to use and reuse words which the child needs as a part of his vocabulary to function in his school room, also to use words in relation to his position in time and space, (vocabulary list in math section).

3. In using numbers, the teacher must often sequence down to touch and rhythm to enable the child to conceptualize the rote counting of objects, and to use numbers in relating to his body.

4. In measuring, the teacher must be as concrete as possible, measuring by parts of the body, hands long, feet long, body long, tall as I am, etc.

5. In classifying, the teacher may need to set up the criteria for classification for a number of lessons before the child can set up his own.

6. In communication, the High Challenge child might move in sequence down below the projection of the human voice in radio or T.V. He may need to become aware of communication only on the level of reception at first.

7. Predicting and inferring is most deficient in the High Challenge child. They seem unable to learn from past experiences. Each situation is to them new and unique. Any aspects which are like another situation must be pointed out and predictions or inferences as to results must be suggested by the teacher. Continual practice in prediction and inference must be engaged to develop the judgment these children will need as they grow older.

Preliminary to inquiry for the High Challenge child is the sorting of diverse objects; colored popcorn, macaroni, straws, rubber bands, white beans, etc. Sorting activities are sequenced in the fine motor prewriting section. Sorting is at the bottom end of the hierarchy in observing, measuring, and classifying. A large amount of these diverse materials can be separated into sets determined by their common properties.

BIBLIOGRAPHY

Hamilton, Jean, Dorothy Kime, Juanite Yost, and Quentine Polk. Science Inquiry for Kindergarten and Primary. Tulsa, 1969.

Kurtz, Edwin B., Jr., Arthur H. Livermore, John R. Mayor, and Henry H. Walbesser. Science: a Process Approach. New York, 1967.

GLOSSARY

GLOSSARY

Acalculia - Loss of ability to perform mathematical functions. Dyscalculia: Disturbance or impairment in the ability to do simple arithmetic.

Acuity - The ability to hear sounds accurately.

Agitographia - A writing disability characterized by very rapid writing movements and the omission or distortion of letters, words, or parts of words.

Agnosia - Cannot identify familiar objects through a particular sense organ.
Auditory Agnosia (Nonverbal): Cannot recognize the ring of the telephone.
Auditory-verbal Agnosia: Can hear what is said, but cannot comprehend the meaning.
Color Agnosia: Cannot name and sort colors.
Geometric-form Agnosia: Cannot make correct-form discrimination.
Picture Agnosia: Cannot perceive pictures correctly.
Tactile Agnosia: Cannot recognize objects by touch.
Tactile-verbal Agnosia: Cannot trace a word or read braille.
Visual or Optic Agnosia: Cannot recognize objects, persons, or places by sight.

Agrammalogia - Inability to recall the structure of sentences. Same as Agrammatism.

Agraphia - Inability to recall the kinesthetic patterns that go into writing, i.e., cannot relate the mental images of words to the motor movements necessary for writing them.

Alexia - Loss of ability to receive, associate and understand visual language symbols as referents to real objects and experiences, i.e., a severe reading disability usually considered the by-product of brain dysfunction.

Amnesia - Lack or loss of memory. With some individuals the deficiency may be intermittent and person will remember things at one time but not another (amnesic reaction).

Amusia - Loss of ability to produce or to comprehend musical sounds.

Anarthria - Loss of ability to form words accurately due to brain lesion or damage to peripheral nerves which carry impulses to the articulatory muscles.
Dysarthria: Partial impairment in the above.

Angular Gyrus - Area of the brain (left hemisphere) which governs some speech functions.

Anoxia - Deficiency or lack of oxygen.

Aphxia - Loss of ability to comprehend, manipulate or express words in speech, writing or signs. Usually associated with injury or disease in brain centers controlling such processes.
Auditory Aphasia: Cannot comprehend spoken words. Same as word deafness and receptive aphasia.
Expressive Aphasia: Cannot remember the pattern of movements required to speak words even though one knows what he wants to say.
Formulation Aphasia: Cannot properly formulate sentences. Confusion occurs in relationships and tenses rather than in words themselves (e.g., Betty give I flowers).
Nominal Aphasia: Cannot recall the names of objects.
Paraphasia: Substitution of inappropriate words which maintain a structural relationship to words replaced. When parts of words are substituted the result is garbled speech. Severe paraphasia is sometimes called jargon aphasia.

Apraxia - Loss of ability to perform purposeful movements.

Articulation - The ability to speak distinctly without noticeable pronunciation problems.

Astereognosis - A form of Agnosia. Cannot recognize objects or conceive of their forms by touching or feeling them.

Asymbolia - Loss of ability to use or understand symbols, such as those used in mathematics, chemistry, music, etc.

Auding - Listening, recognizing, and interpreting spoken language. Not merely hearing and responding to sounds.

Auditory - Of or related to hearing sounds.

Auditory Association - The ability to respond in a meaningful way to sounds or spoken words.

Auditory Discrimination - Ability to identify and accurately choose between sounds of different frequency (pitch), intensity (volume) and pattern. Includes the ability to distinguish one speech sound from another.

Auditory Imperception - Failure to understand oral verbal communication and failure to understand the significance of familiar sounds.

Auditory Perception - Ability to receive and understand sounds and their meaning.

Body Image - Awareness of ones' own body (conscious mental picture or subconscious knowledge of one's position in space and time). Includes the impressions one receives from internal signals as well as feedback resulting from contact with others. How one thinks he looks is referred to as body concept.

Brain Damage (Injury) - Preferably referred to as minimal cerebral dysfunction.

Functional Brain Damage: Pertaining to the operation or action of the brain or a disability due to psychological causes.

Organic Brain Damage: Pertaining to the actual structure or substance of the brain.

Central Nervous System - The brain and the spinal cord. Referred to as C.N.S. by some authors.

Choreiform Movements - Spasmodic or jerky movements which occur quite irregularly and arhythmically in different muscles. Characteristically these movements are sudden and of short duration distinguishing them clearly from slow tonic athetoid movements.

Classification - The ability to establish logical relationships among classes of objects.

Closure - The process of achieving completion in behavior or mental act. The tendency to stabilize, close, or complete a situation.

Cognitive - The ability to apprehend, know or perceive.

Cognitive Style - An individual's characteristic approach to problem solving and cognitive tasks (e.g., Some persons tend to be analytical, seeing parts, while others tend to be wholistic, seeing things in their entirety with little awareness of components).

Comprehension - The ability to grasp an idea mentally and to understand it fully; the ability to reason in an everyday situation.

Compulsiveness - Insistance on performing or doing things in habitual ways.

Concept - The manipulation of previously stored impressions combining elements into the idea of one object.

Concretism - An approach to thinking and behavior in which a person tends to approach each situation as a unique one and is situation bound. Such a person does not see essential similarities between situations which normal persons would accept as similar or even identical.

Coordination - Synchronized movement patterns.

Cross-Lateral Movement - The ability to produce simultaneous movements of different limbs on opposite sides of the body or the movement of the same limbs but in opposite directions.

Crossing-Over - Crossing the midline or center line of the body with body extremities or with eyes.

Decoding - The process involving the child's ability to receive sensory impression--the ability to derive meaning from visual and auditory symbols.

Differentiation - The ability to sort out and use visual and auditory stimuli in a specific and controlled manner.

Directionality - The ability to develop an internal awareness of directions projected into space; what the child sees has a definite position relative to his position.

Discrimination - The process of detecting differences.
Auditory Discrimination: Sometimes referred to as ear training, involves identifying sounds with respect to their likelinesses and differences.
Visual Discrimination: Discriminating between different objects, forms, and/or letter symbols.

Disinhibition - The removal of a conditioned inhibition. (In classical studies an animal might be inhibited from making normal responses to food. Retraining would remove the inhibition). Educators link the term closely with impulsivity. Many use the term to mean lack of ability to restrain oneself from responding to distracting stimuli. Thus, a child may pursue his impulse to look out the window, go to another child, vocalize, run to the door, and many others, in spite of the situation or circumstances. In other words, he would not inhibit these responses from within.

Dissociation - The inability to see things as a whole, as a unity, or as a gestalt. The tendency to respond to a stimulus in terms of parts or segments; also difficulty in bringing two or more parts together into a relationship to complete a whole.

Distractibility - The tendency for one's attention to be easily drawn to extraneous stimuli or to focus on minor details with a lack of attention to major aspects. Often used synonomously with short attention span although the latter suggests an inability to concentrate on one thing for very long even without distractors.

Dominance - Preferred side determined by cortical development.

Dysarthria - Defect in articulation stammering.

Dyscalculra - Unable to understand math concepts.

Dysdiadochokinesis - Inability to perform repetitive movements such as tapping with the finger.

Dysgraphia - Partial inability to express ideas by means of writing or written symbols. Usually associated with brain dysfunction.

Dyskinesia - Partial impairment of voluntary movement abilities, resulting in incomplete movements, poor coordination and apparently clumsy behavior.

Dyslalia - Refers to speech impairment due to defects in the organs of speech. Not the same as slovenly speech.

Dyslexia - Partial inability to read, or to understand what one reads silently or aloud. Condition is usually, but not always, associated with brain impairment. (Some authors refer to genetic dyslexia, affective dyslexia, experiential dyslexia, congenital dyslexia, etc.).

Dysnomia - The condition when an individual knows the word he is trying to recall, recognizes it when said for him, inability to recall at will.

Echolalia or Echophrasia - Apparently uncontrollable response characterized by repeating a word or sentence just spoken by another person.

Electroencephalograph - An instrument for graphically recording electrical currents developed in the cerebral cortex during brain functioning; often abbreviated EEG.

Emotional Blocking - Inability to think or make satisfactory responses due to excessive emotion, usually related to fear.

Emotional Lability - The tendency toward cyclic emotional behavior characterized by sudden unexplainable shifts from one emotion to another.

Encoding - The process involving the child's ability to express himself--the ability to use verbal or manual symbols to transmit an idea or concept.

Etiology - The study of causes and origins, especially of a disease.

Expressive Language - The ability to develop skills of expressing thoughts for others in speech and in writing.

Eye-Hand Coordination - The ability to coordinate hand movements with visual perceptual and visual motor activities.

Figure-Ground Perception - The ability to perceive objects in the background and foreground and separate them in a meaningful way.

Fine Motor Skills - The ability to coordinate precise control of delicate muscle systems.

Flexibility - The ability to increase the range of motion at a given point.

Form Perception - The ability to conceive a given form with all its parts; to break it down into individual parts or bring it together as a whole unit.

Frustrational Level - The level at which the child is not capable of performing or completely breaks down.

Gerstmann's Syndrome - A combination of disabilities including finger agnosia, right-left disorientation, acalculia and agraphia.

Gestalts - Term used to express any unified whole whose properties cannot be derived by adding the parts and their relationships. The something which is more than the sum of its parts (e.g. wheelbarrow is more than just a wheel + handles + basket).

Gross Motor Skills - The ability to achieve a sense of balance and direction, to develop large muscle control and freedom, and to prepare him for movement within his own world.

Gustatory - The sense of taste.

Handedness - The dominant hand.

Haptic - The integration of tactile (skin sense) and kinesthetic (muscle sense).

Hemianopia - The condition where one has only one half of the field of vision in one or both eyes.

Hemispherical Dominance - Refers to the fact that one cerebral hemisphere generally leads the other in control of body movement, resulting in the preferred use of left or right (laterality).

Hyperactivity - Excessive activity - the individual seems to have a surplus of energy.

Hyperkinesis - Excessive mobility or motor restlessness sometimes referred to as driveness.

Hypoactivity - Pronounced absence of physical activity.

Hypokinesis - Diminished motor function or activity often appearing as listlessness.

Idiogiossia - The phenomenon of "invented language" caused by the omission, substitution, distortion, and transposition of speech sounds. Same as idiolalia.

Imperception - Lack of ability to interpret sensory information correctly. A cognitive impairment rather than a sensory impairment.

Impulsiveness - The tendency to act on impulse. Responding without thinking which is often explosive behavior where disorders exist.

Inhibitions - The restriction of specific activity usually related to mental condition although the restraint appears to exist in the environment.

Integration - The organization of present and past stimuli into a complete response.

Kinesthesis - The sense that informs one of movements of the body or of its several members.

Kinesthetic - Pertaining to the sense by which muscular motion, position, or weight are perceived.

Kinesthetic Method - A method of treating reading disability by having pupils trace the outline of words or in other ways systemically incorporate muscle movement to supplement visual and auditory stimuli.

Laterality - The ability to develop an internal awareness of right and left sides and the ability to use each separately or both sides together as the task demands.

Locomotion - The ability to develop skills involving movements of the body through space.

Learning Systems - The different modes through which learning occurs such as visual, auditory, haptic, kinesthetic, tactile, etc. or any combination of the above.

Maturational Lag - The concept of differential development of areas of the brain and of personality which mature according to recognized patterns longitudinally. A lag signifies irregularity in this pattern without a structural defect, deficiency, or loss.

Memory Span - The number or related or unrelated items that can be recalled immediately after presentation.

Midline - Vertical center line of the body. Children develop from the midline of the body out, and from the head to the feet.

Mixed Cerebral Dominance - The theory that language disorders may be due wholly or partly to the fact that one cerebral hemisphere does not consistently lead the other in the control of bodily movement (i.e., hemispheric dominence has not been adequately established).

Negativism - Extreme opposition and resistance to suggestions or advice. Normally observed in late infancy.

Neurological Examination - An examination of sensory or motor responses especially of the reflexes, to determine whether there are localized impairments of the nervous system.

Neurology - The discipline which studies the structure and function of the nervous system.

Neuromuscular - The relationship of the nerves to the muscles. Development depends upon the quality and quantity of use.

Nonlocomotor - Movement in place, i.e., bending, pushing, etc.

Olfactory - Pertaining to the sense or the organ of smell.

Organicity - Refers to central nervous system impairment.

Orientation - The ability to locate oneself in relation to one's surroundings or in relation to time. The ability to stabilize the environment so that it remains more or less constant.

Patterning - Sequential neuromuscular development.

Perception - A sensation which may be combined with previous experiences to make it more meaningful.

Perceptual Motor - The process which includes sensory decoding and motor or muscular encoding.

Perseveration - The child is unable to shift his attention to a new stimuli; he is repetitious.

Perceptual Constancy - The ability to recognize objects as being the same although they differ in size, shape, and color.

Pneumoencephalogram - A medical diagnostic procedure which involves taking an electroencephalogram after injecting air or gas into the ventricular spaces of the brain.

Position in Space - The ability to perceive the relationship between an object and the observer; to perceive and object to be behind, before, above, below or to the side of.

Proprioceptor - An organ which is sensitive to the position and movement of the body and its members; such organs are found in the vestibule of the inner ear, the nearby semicircular canals, and in the muscles, tendons, and joints.

Psychoneurology - A term suggested to designate the area of study that concerns itself with the behavioral disorders associated with brain sysfunctions in human beings.

Rating Scale - An instrument used to systematically record observations of a child's behavior.

Readiness - Specific skills expected of a child in order to successfully perform a given task.

Reauditorization - The ability to recall the name or sounds of visual symbols (letters). Some individuals remember what letters look like but not which sound they make.

Receptive Language - The ability to develop skills of listening beyond the skill of auditory acuity.

Rigidity - Maintaining an attitude or behavioral set when such a set is no longer appropriate.

Space - The area immediately surrounding the child in which he moves.

Spatial Orientation - The internal awareness of direction projected into space; it has a definite position relative to the child's position.

Specific Language Disability - Usually the term is applied to those who have found it very difficult to learn to read and spell, but who are otherwise intelligent, and usually learn arithmetic more readily. More recently any language deficit, oral or receptive.

Strabismus - A visual defect caused by lack of coordination of eye muscles resulting in inability to direct the eyes to the same point.

Strephosymbolia - Twisted symbols - a reversal of symbols observed in the reading and writing performance of children with learning disabilities (e.g., was for saw).

Structuring - The arrangement of activities so that they are easily performed and meaningful to the child.

Tactile - The ability to identify objects by touching and feeling.

Visual - Relating to the use of the eyes.

Adapted from AIDS and
Frierson & Barbe.